

# **North Carolina**

## **SOLID WASTE MANAGEMENT**

### **Annual Report**

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**JULY 1, 2000 - JUNE 30, 2001**

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*State of North Carolina  
Michael F. Easley, Governor*

*Department of Environment  
and Natural Resources  
William G. Ross Jr., Secretary*

*Reduce--Reuse--Recycle*

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**NORTH CAROLINA SOLID WASTE MANAGEMENT ANNUAL REPORT  
FY 2000-2001**

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# Solid Waste Management Annual Report

## Fiscal Year 2000-2001

### Chapter 1

#### INTRODUCTION

This annual report is required by the North Carolina General Assembly in G.S. 130A-309.06(c), the Solid Waste Management Act of 1989<sup>1</sup>. The information presented is received from local government annual reports, reports from permitted solid waste management facilities and state agencies. These reports represent activities related to the management of solid waste for the period July 1, 2000 to June 30, 2001.

House Bill 1006, adopted in the 2001 session of the General Assembly, requires that several state agency reports be consolidated into one annual environmental status report. As the initial consolidated report, this document incorporates information from the Departments of Environment and Natural Resources, Transportation, and Administration. In FY 2000-2001, 100 counties, 417 municipalities and 293 solid waste facilities, including 9 out-of-state landfills, submitted annual reports. State agencies also provided information on buy recycled activities.

#### RECOMMENDATIONS

1. The issues surrounding solid waste management grow increasingly more complex. Solutions are not easy to identify and lack consensus. *Consequently, the Department recommends that a solid waste study committee be established to examine the issues presented here.*

Questions recommended for discussion by the study committee include:

- Can the state ensure adequate disposal capacity while encouraging waste reduction and without long-term negative environmental and social impacts?
- What are the best ways to manage and reduce problematic and large waste streams such as electronics, construction debris and organic wastes?
- How should the state approach its continuing illegal dumping problem?
- What are the most effective means to achieve greater waste reduction statewide?
- Where can resources be found to address solid waste management issues?
- How should groundwater contamination at old, closed landfills be addressed?

2. The current scrap tire management program activity in North Carolina is funded by a tax, which is due to be reduced on June 30, 2002. This reduction will eliminate many of the program's positive features.

*The General Assembly should remove the June 30, 2002 sunset on the tire disposal fee to maintain the current program structure.* The current program benefits include:

- Free disposal of North Carolina tires
- Clean up nuisance tire sites
- Support tire recycling
- Provide technical assistance to counties

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<sup>1</sup> This legislation was originally passed in 1989, but amended in 1991 and 1995.

## Chapter 2

### SOLID WASTE DISPOSAL

#### HISTORICAL SOLID WASTE DISPOSAL RATE

The state measures waste disposal by comparing the per capita waste disposal rate in the base year (FY 1991-1992) to the per capita rate in the current year. The analysis, over time, shows the state's pattern of waste disposal. Negative numbers indicate a lack of progress toward the state's waste reduction goal.

$$\text{Formula: } \text{Total Tons Disposed} \div \text{Population} = \text{Per Capita Disposal Rate}$$

Fiscal Years	Tons Disposed	Population	Per Capita Disposal Rate	Waste Reduction from Base Year 1991-1992
2000-2001	9,752,510	8,049,313	1.21	-13 %
1999-2000	(adjusted*) 9,937,355	7,938,062	1.26	-18 %
1999-2000	10,267,137	7,938,062	1.30	-22 %
1998-1999	9,214,323	7,797,501	1.19	-12 %
1997-1998	8,607,578	7,645,512	1.13	-6 %
1996-1997	(adjusted*) 8,041,734	7,490,812	1.08	-1 %
1996-1997	8,741,727	7,490,812	1.17	-10 %
1995-1996	7,722,795	7,336,228	1.06	1 %
1994-1995	7,624,144	7,180,525	1.07	0 %
1993-1994	7,038,505	7,036,927	1.00	7 %
1992-1993	6,890,818	6,892,673	1.00	7 %
1991-1992	(managed**) 7,257,428	6,781,321	(Base Year Rate) 1.07	
1991-1992	6,822,890	6,781,321	1.01	
1990-1991	7,161,455	6,632,448	1.08	

\*The 1996-1997 and 1999-2000 fiscal years are adjusted by subtracting the tonnage estimated to have been created by Hurricanes Bertha, Fran (1996-1997) and Floyd (1999-2000).

\*\*The tons managed figure was determined by adding the total amount of municipal solid waste disposed in landfills and incinerators to the amount of waste managed through local governments' recycling, composting and mulching efforts in fiscal year 1991-1992.

Recycling, composting and mulching were added to the tons disposed in recognition of the fact that some local governments had begun waste reduction before 1991.

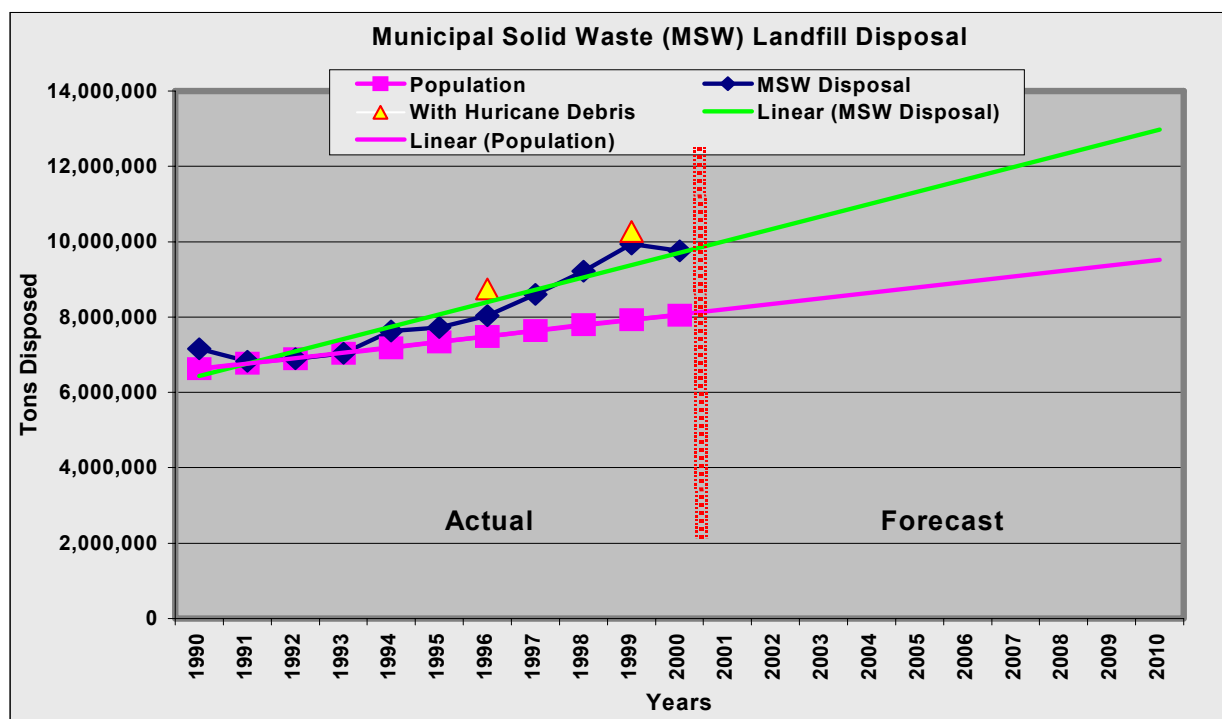
Please note that due to adjusted upward population estimates for the years 1991 through 1999, per capita disposal rates decreased slightly from those stated in previous reports.

According to the chart, per capita rates decreased, and waste reduction rates increased over the past fiscal year. The decrease in disposal and per capita may be attributed to several factors. Previous year's economic growth slowed in the 2000-2001 fiscal year. This slow-down resulted in less consumer and businesses expenditures. Additionally, there was no major natural disaster, such as Hurricane Fran or Floyd. Natural disasters dramatically increase waste disposal.

Solid waste was first reported on a statewide basis in 1990-1991. In the early 1990s, the state made slight reductions in per capita waste. Several factors caused this reduction. The establishment of tipping fees served as an incentive to explore other solid waste programs in an effort to manage wastes that do not require landfill disposal. Local governments also initiated recycling and waste reduction programs in response to state mandates and a perceived disposal

crisis. These programs recovered materials that were relatively easy to capture and primarily came from residential waste. In addition, the economy in the early 1990's was not as strong as later in the decade. As a result, there was strong public and private interest in finding innovative ways to reduce waste.

In recent years disposal has increased dramatically. The state did not reach its goal, established in 1991, of a 40% per capita decrease by 2001. If the State had met the 2001 waste reduction goal, over 4.3 million tons would not have been disposed. The resulting per capita rate would have been 0.67 tons per person.



When combined with absolute population growth, the continued increase in per capita rates could mean that North Carolina would have to dispose of nearly 13 million tons. This amount would equal nearly a ton and a half of waste for every citizen by 2010. This forecast does not include the impact of natural disasters, such as a hurricane, on the projected waste stream.

### LANDFILLS REMAIN DIFFICULT TO SITE

Efforts to gain local government approval for siting a new landfill or expanding an existing landfill in North Carolina continue to be difficult. Decisions for new municipal solid waste landfills in North Carolina have been challenged under various legal procedures. There have been well-publicized rejections of various landfill proposals in Winston-Salem and Greensboro. Duplin, Halifax, and Chatham counties have also rejected proposed landfills.

A landfill is an essential component of a comprehensive program that safely and economically manages solid waste. For many years, North Carolina had a system of county owned and operated landfills. These facilities primarily served the county in which they were located.



Currently, a large majority of North Carolina's municipal solid waste is placed in regional landfills, either inside or outside of the state. These regional landfills, which may be owned by local governments, private waste management companies, or a combination of the two, serve large geographic areas.

Existing requirements for obtaining a landfill permit include certification to the State that the local government with jurisdiction over the location has given its approval. This approval involves several procedural steps that offer numerous opportunities for public participation. The state permit review process considers the local government approval process. The State also conducts additional review procedures to meet the U.S. EPA's environmental justice policies. These considerations make up a significant portion of the legal challenges to the issued permits.

Public response to siting new or expanding existing landfills is intensely negative, especially from citizens who would neighbor the proposed sites. This response has been consistent, regardless of whether the landfill in question is regional or exclusive to the county where it is located. Local elected officials cite negative public response as a primary reason for not giving approval for proposed landfills.

The Solid Waste Section has initiated a new program to offer citizens; especially those impacted by a potential landfill permit decision, more opportunity to participate in the process. Upon receipt of site suitability application or permit modification, the Section will, as a part of the review process, hold a series of public meetings. The first meeting will be with those closest to the landfill, the second meeting will include citizens in the county. The Section will consider and address identified concerns in its review process. Concerns will also be forwarded to the appropriate government or non-government agency.

## **ILLEGAL DISPOSAL**

Illegal dumping in North Carolina continues to threaten environmental and public health. Illegal dumps may be found in ravines, abandoned and unsecured lots, farm land, private and public property, country dirt roads and dead-end roads. The vast majority of illegal dumpsites, 76 percent, are established by construction, demolition or land-clearing contractors. Illegal dumping touches work, lives and the environment in numerous ways. It affects human and environmental health, aesthetics, tourism, property values and development. Clean up efforts are extensive and costly. At a minimum, 960 open illegal dumps exist within 97 counties. Roughly, 3,551 closed<sup>2</sup> illegal dumpsites remain within 90 counties. On average, 45 open and closed dumpsites exist per county<sup>3</sup>.

## **SEPTAGE PROGRAMS**

Growth continues this solid waste management method. More organics are being composted and land applied for beneficial use. Recycling of industrial by-products for beneficial uses is increasing and new standards are being developed to accommodate the new technologies.

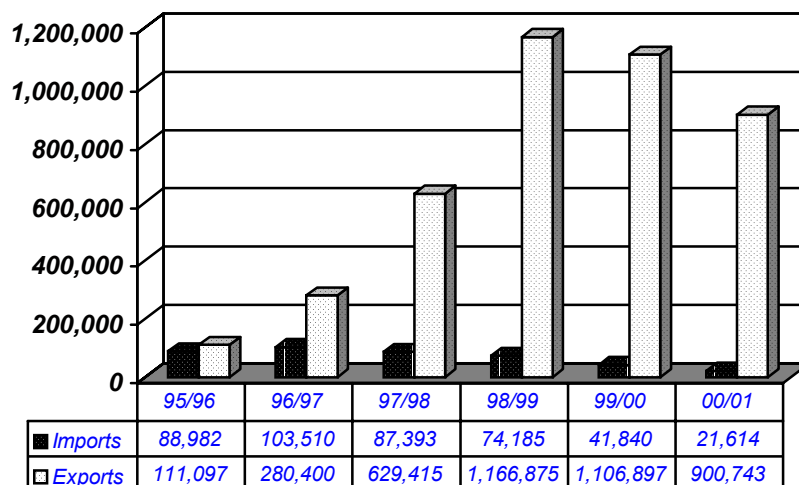
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<sup>2</sup> A closed dumpsite is one in which acceptable material has been buried in place and recorded in the county Register of Deeds office.

<sup>3</sup> This is most likely an underestimate. Many counties do not actively search for illegal dumpsites due to a lack of resources, time, desire and/or an environmental enforcement officer.

## IMPORTS & EXPORTS

North Carolina continues to be a net exporter of solid waste. In recent years, the State shifted to exporting significantly more than importing. North Carolina exported almost 10% of the total waste disposed in FY 2000-2001. The chart shows total tons imported and exported from FY 1995-1996 through FY 2000-2001.



The State exported 900,743 tons of waste during FY 2000-2001, slightly less than the FY 1999-2000 total of 1,106,897 tons. Exports are tracked by North Carolina transfer station reports and voluntary reports from out-of-state facilities.

Imports have also decreased. In FY 1999-2000, 41,840 tons were imported, compared to 21,614 tons during the most recent fiscal year. Waste imports are tracked through annual reports submitted by North Carolina solid waste facilities.

## OLD CLOSED LANDFILLS

North Carolina has approximately 126 closed municipal solid waste landfills that at one time were permitted solid waste facilities. Nearly every county in the state has a facility like this. When constructed a vast majority of these landfills had rudimentary, (if any), design features aimed at stopping leachate from entering groundwater. One hundred and ten of these landfills now have detected leachate plumes leaving the disposal area and contaminating groundwater. Contamination has not yet been detected at the remainder.

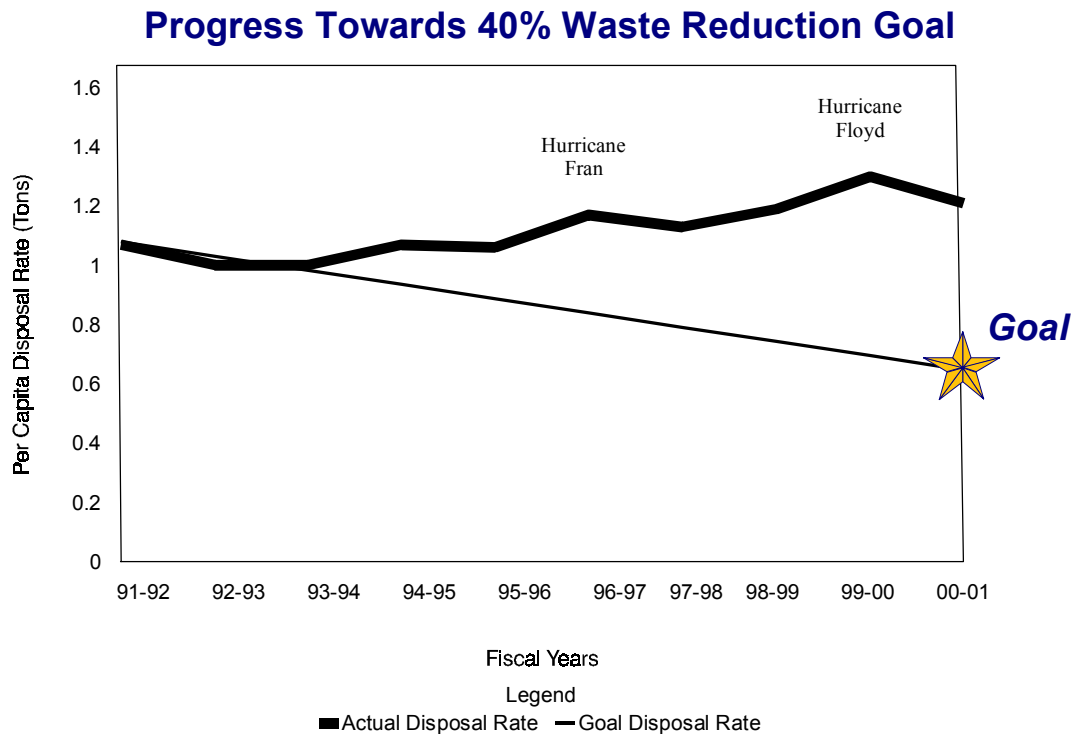
North Carolina communities will be further impacted by the legacy of old, closed landfills. Some communities are already reacting to situations where residents living close to closed facilities have had problems. Other communities continue to monitor their closed facilities to assess the extent and nature of potential contamination of local aquifers. It is difficult to predict when in the future it will no longer be necessary to monitor these facilities and take appropriate corrective action. The cost of monitoring and possible remediation, or implementation of other control measures, will be borne by future taxpayers, whether it is on the local or state level.

## Chapter 3

# FAILURE TO REACH THE WASTE REDUCTION GOAL AND FACTORS INFLUENCING SOLID WASTE GENERATION

### THE 40% WASTE REDUCTION GOAL

In the 1991 amendments to the Solid Waste Management Act of 1989 (also known as Senate Bill 111), the General Assembly established a statewide goal to reduce the disposal of waste in landfills by 40% by the year 2001. This landfill disposal reduction was to be measured on a per capita basis from 1991. The goal was not met. Waste disposal on a per capita basis actually increased by approximately 14% as the state per capita rate went from 1.07 tons per person in 1991 to 1.21 tons per person in 2001.



The reasons for not achieving the goal are complex and interrelated. The three basic reasons for not reaching the waste reduction goal are a change in the dynamics of waste disposal, commitment, and economics.

The dynamics of waste management changed dramatically after the goal was established. Alternative technologies such as incineration and mixed waste composting did not develop as anticipated. There was a great deal of interest and significant investment in these technologies but they did not have the impact on landfill disposal that was expected. Additionally flow control (the ability of local governments to require waste disposal at certain facilities) was overturned by the Supreme Court. Local governments could not direct the flow of waste, which was determined to be a commodity.

The commitment to waste reduction waned over the years. The goal became to be perceived as “just a goal” and not a mandate. Funding and the commitment of resources to waste reduction activities never occurred at the levels required or anticipated in order for some of the waste reduction programs to be successful. Additional bans of materials from disposal did not occur. Other environmental issues took center stage as the “solid waste crisis” of the later part of the decade of the eighties seemed to be solved.

The economics governing waste landfill disposal changed since the goal was adopted. Landfills simply did not become as expensive to operate as initially projected. Customers of landfills adapted to tip fees more easily than expected and did not pursue waste reduction as a cost control as much as anticipated. Additionally the state and national economy was very strong during the nineties and a disposal costs never seemed to be much of an issue.

In retrospect, the goal, at the time of its adoption was ambitious but not unrealistic. However, due to the changes that occurred over time after the adoption of the goal, achieving the goal became impossible.

## **FACTORS INFLUENCING WASTE GENERATION**

Economic activity and natural disasters significantly influence the generation of waste in North Carolina and therefore, have impacted the waste reduction goal.

North Carolina enjoyed a very healthy economy throughout the 1990's, which helped drive the growth in disposal rates above the rate of population growth (hence per capita waste disposal rose in the 1990's). One of the chief factors in the increasing waste stream was construction, remodeling, and demolition activity. Construction and demolition wastes increased from approximately 22 percent of the disposed waste stream in the early 1990's to 29 percent at the end of the decade. The pace of consumer activity also helped increase waste generation, as per capita retail sales increased about 30 percent, even when controlling for inflation. More purchasing meant faster turnover of obsolete consumer goods into the waste stream and increased packaging disposal from purchased products.

In FY 2000-2001, the per capita disposal rate fell for the first time in five fiscal years (approximately 185,000 tons or 3.2 percent from the previous years). At least three factors may help explain this decrease. First, construction activity declined: for example, residential housing permit issues for single and multi-family dwellings declined 3.13 percent. Second, inflation-adjusted retail sales also declined: sales in the last six months of 2001 were 2.24 percent lower for the same six months in 2000. And finally, the last disposal of Hurricane Floyd wastes may have ended or substantially declined in FY 2000-2001.

Historically, we have seen the influence natural disasters have had on increased waste disposal. Waste disposal amounts attributed to Hurricane Fran in FY 1996-1997 were estimated based on the past trend of waste and per capita disposal. Unlike the estimated disaster debris from Hurricane Fran, counties reported disaster debris totals to the Solid Waste Section following Hurricane Floyd in FY 1999-2000. A total of 329,782 tons of disaster debris was reported for FY 1999-2000. When looking at the pattern of waste disposal over a period of the last ten years, adjusted figures for FY 1999-2000 remain higher than expected. A portion of this disposal can

possibly be attributed to under reported disposal amounts of hurricane related waste for FY 1999-2000.

### **TEN LARGEST WASTE PRODUCING COUNTIES**

In FY 2000-2001, ten North Carolina counties with the highest waste disposal (50 % of the state's waste) held 41 % of the state's population. This percentage remained constant from last year when 40% of the population accounted for 50% of the waste disposed. The per capita disposal rate was 1.49 for these top ten counties.

#### **Ten Largest Waste Producing Counties FY 2000-2001**

County	Tons Disposed FY 2000-2001	% by County of Total NC Disposed	Cumulative %'s
MECKLENBURG	1,233,824	12.7 %	12.7 %
WAKE	941,850	9.7 %	22.3 %
GUILFORD	730,012	7.5 %	29.8 %
FORSYTH	465,134	4.8 %	34.6 %
CUMBERLAND	351,620	3.6 %	38.2 %
NEW HANOVER	259,305	2.7 %	40.8 %
BUNCOMBE	251,472	2.6 %	43.5 %
DURHAM	224,407	2.3 %	45.8 %
GASTON	215,226	2.2 %	48.0 %
CABARRUS	187,508	1.9 %	49.8 %

## Chapter 4

### GOVERNMENT WASTE REDUCTION ACTIVITIES

Annual Reports received from local governments provide data on source reduction, reuse, recycling and composting activities statewide as well as other aspects of solid waste management. Data from these reports are used to develop a picture of waste reduction efforts in North Carolina and the relative effectiveness of these programs and trends in program implementation.

#### SOURCE REDUCTION AND REUSE PROGRAMS

The number of source reduction and reuse programs operated by local governments decreased slightly during FY 2000-2001. Seven local governments dropped programs. Although source reduction and reuse programs are generally low cost options for diversion, local governments continue to overlook these programs. Junk mail reduction, backyard composting and swap shop programs offer the greatest potential for future growth. Growth in swap shops and backyard composting programs is partially attributed to annual grant funding provided by the Division of Pollution Prevention and Environmental Assistance. In addition, the provision of free materials and resources in conjunction with promotion of junk mail reduction programs has helped to increase the number of programs in-place.

#### Source Reduction and Reuse Programs Operated by Local Governments

Program Type	FY 1994-95	FY 1995-96	FY 1996-97	FY 1997-98	FY 1998-99	FY 1999-00	FY 2000-01
<b>Source Reduction Programs</b>							
Backyard Composting	92	70	82	81	53	59	64
Grass Cycling	49	40	41	43	41	36	35
Xeriscaping	12	12	11	13	12	11	8
Junk Mail Reduction	20	40	56	55	57	64	64
Enviroshopping	35	27	36	35	35	32	31
Promotion of Non-toxics	38	34	39	35	30	31	33
Other	11	10	9	1	5	6	3
<b>Reuse Programs</b>							
Swap Shops	N/A	13	10	17	22	23	28
Paint Exchange	17	22	28	25	27	23	19
Waste Exchange	18	13	11	14	8	8	4
Pallet Exchange	N/A	N/A	N/A	N/A	7	7	9
Other	N/A	N/A	4	6	15	10	8
<b>Local Gov. with Programs</b>	<b>N/A</b>	<b>104</b>	<b>116</b>	<b>123</b>	<b>110</b>	<b>117</b>	<b>110</b>

## LOCAL GOVERNMENT RECOVERY PROGRAMS

Local government recovery declined slightly in FY 2000-2001 to 985,052 tons. Almost all of this decrease can be attributed to a return to normal yard waste generation conditions following the spike from Hurricane Floyd, and the closure of two C&D recyclers in the State. The net effect of these two events was a decrease in the overall per capita recovery to 244.75 pounds down from 275.39 pounds per capita in FY 1999-2000.

Taking into account the effects of Hurricane Floyd on FY 1999-2000 organics recovery, FY 2000-2001 appears to have provided a small growth in recycling consistent with growth from previous years. It should be noted, however, that growth in population again out-paced that of recovery. Despite the decline in overall recovery and the failure to keep pace with population growth, six of the eight material categories shown in the table below experienced growth during FY 2000-2001.

### Local Government Recovery (Tons) and Performance Measures FY 1992-1993 to FY 2000-2001

Material	FY 92-93	FY 93-94	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01
Total Paper	151,676	164,806	185,270	212,577	228,025	216,121	233,339	241,859	263,365
Total Glass	32,611	37,537	38,088	49,601	44,978	43,449	41,623	41,826	46,936
Total Plastics	9,264	9,797	12,339	16,253	13,699	14,399	14,835	14,474	15,062
Total Metal*	44,302	51,468	59,483	65,977	77,252	81,262	77,564	86,480	92,634
Total Organics**	378,516	350,142	495,034	498,583	640,410	504,554	525,033	638,757	540,582
Special Wastes***	1,715	2,106	2,466	3,212	3,230	3,527	3,817	4,907	4,947
C & D Debris	N/A	N/A	N/A	N/A	N/A	N/A	N/A	59,598	15,406
Other	4,272	16,387	5,987	333	12,762	35,977	63,794	5,329	6,120
<b>Totals</b>	<b>622,356</b>	<b>632,243</b>	<b>798,667</b>	<b>846,536</b>	<b>1,020,356</b>	<b>899,290</b>	<b>960,005</b>	<b>1,093,032</b>	<b>985,052</b>
<b>Per Capita Recovery (lbs.)</b>	<b>180.58</b>	<b>179.69</b>	<b>222.45</b>	<b>230.78</b>	<b>272.43</b>	<b>235.25</b>	<b>246.23</b>	<b>275.39</b>	<b>244.75</b>
<b>Recovery Ratio (Recycling: Disposal)</b>	<b>0.09</b>	<b>0.09</b>	<b>0.10</b>	<b>0.11</b>	<b>0.12</b>	<b>0.10</b>	<b>0.10</b>	<b>0.11</b>	<b>0.10</b>

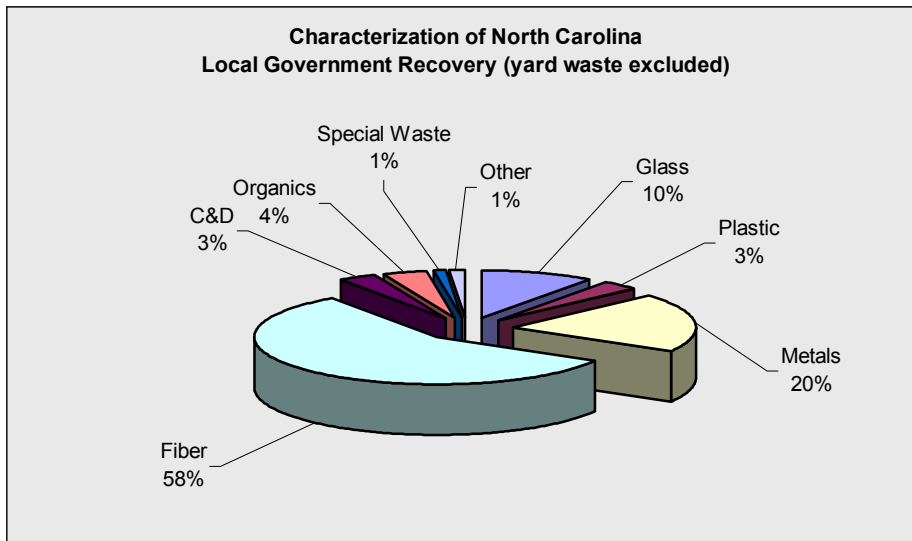
\*Includes white goods, aluminum cans, steel cans, and other metals.

\*\*Includes yard waste, pallets, and wood waste.

\*\*\*Includes electronics, used oil, oil filters, antifreeze, and batteries.

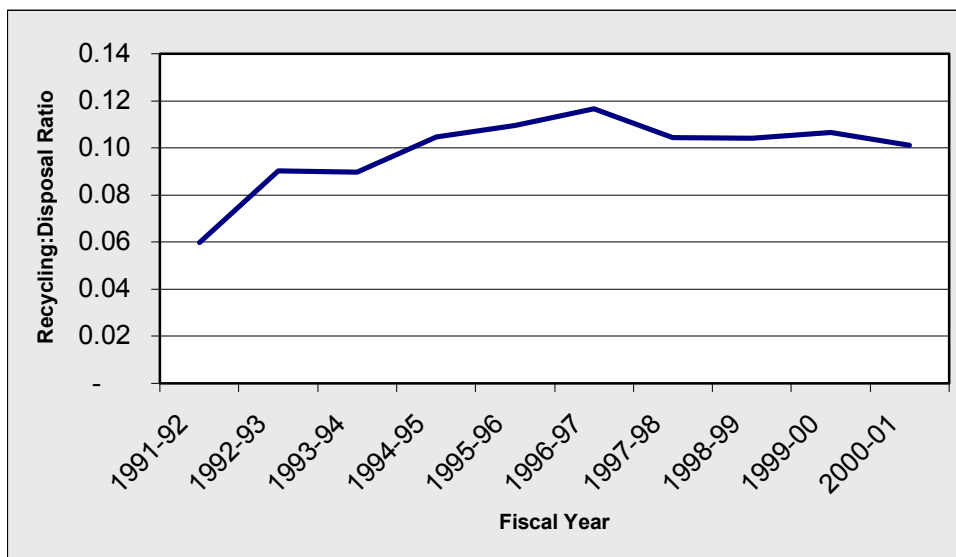
The following figure provides a visual breakdown of materials recovered by local governments during FY 2000-2001. The figure excludes yard waste. As can be seen, fiber (paper products) constitutes the majority (58 percent) of material recovered by local governments. Fiber is the bellwether commodity of local government recycling programs posting strong gains in seven of the last eight years and showing potential for continued increases well into the future. A distant

second in the composition of local government recyclables are metals comprising about 20 percent of the mix. The metals category includes white goods (appliances), which accounts for more than half of local government metal recovery. The third largest component of recovery is glass (10 percent) followed by organics, C&D, and plastic, which each contribute roughly the same amount.



The state experienced a decrease in disposal during FY 2000-2001. The decrease that was also experienced in recycling resulted in a decrease in the ratio of recycling to disposal. This ratio does not calculate the recycling rate for the state, but simply looks at changes in disposal as they relate to changes in recycling. The rate this year decreased to 0.10 as compared to 0.11 last year. This 0.01 decrease indicates that while disposal decreased during FY 2000-2001, recycling decreased at a greater rate.

#### Ratio of Recycling to Disposal – FY 1992-1993 to FY 2000-2001



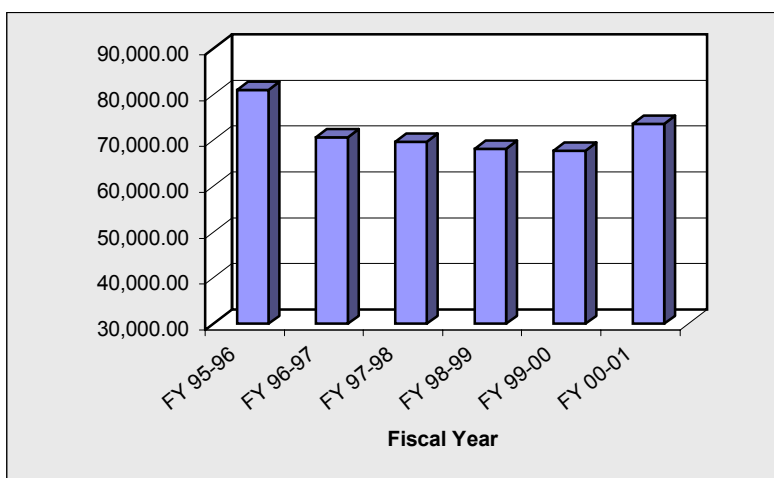


## RECOVERY OF TRADITIONAL MATERIALS

Local government recovery of fiber products (e.g., newsprint) grew 8.9 percent in FY 2000-2001 as compared to a state population growth of less than 2 percent, showing some strength in local government collection programs. The recovery of paper has increased every year except for one since FY 1992-1993 and continues to offer the best chances for continued growth in traditional local government recyclables.

In sharp contrast to FY 1999-2000, local government recovery of containers (plastic, glass, aluminum and steel) experienced a healthy increase climbing to 73,649 tons. This marks the first overall increase in container recovery in more than six years. Although the exact reason for the strong rebound in container recovery is debatable, it does reflect positively on local government efforts.

**Local Government Container Recovery (Tons)**  
**FY 1995-1996 to FY 2000-2001**



One possible reason for the increase in container recovery may be the new “Recycle Guys” campaign adopted by the State. Through a partnership involving local governments, DENR and the private sector, “Recycle Guys” commercials were run on Time Warner cable stations for a six-month period in 32 counties representing the three largest metropolitan areas in the State (Charlotte/Mecklenburg, the Triad and the Triangle). The 32 counties that received cable advertising for the “Recycle Guys” experienced a 15.65 percent increase in container recovery while the counties that did not receive cable advertising experienced a 4.77 percent decrease in container recovery. A similar analysis of fiber recovery did not result in a similar outcome. However, given the fact that small program changes can have huge impacts on fiber recovery and that much of the fiber recovered by local governments in North Carolina is from commercial sources, it is reasonable to assume that at least some of the increase in container recovery can be attributed to the “Recycle Guys” campaign.

## COMMON COMPONENTS OF LOCAL GOVERNMENT WASTE REDUCTION PROGRAMS

There were no great improvements made in the number of standard waste reduction components used by the average county program. The average county used only seven of the 18 common program components outlined in the table below. In order to make serious progress in reducing the amount of waste disposed of in North Carolina, the number of components utilized in the

average program will need to increase. Although there are several no-cost or low-cost programs available, including buy-recycled policies, local disposal bans, and source reduction and reuse programs, these components continue to be overlooked by most counties.

### **Waste Reduction Programs Implemented by Average North Carolina County**

<b>Program</b>	<b>Yes/No</b>	<b>Program</b>	<b>Yes/No</b>
In-House Reduction	Yes	Local Disposal Ban	No
Buy-Recycled Policy	No	Pay As You Throw	No
Backyard Composting	No	Oil Recycling	Yes
Source Reduction	No	Oil Filter Recycling	No
Reuse	No	Antifreeze Recycling	No
Curbside Recycling	No	Battery Recycling	Yes
Drop-off Recycling	Yes	HHW Collection	No
Other Recycling Program	Yes	Mulching/Composting	Yes
Education Program	Yes	C&D Reuse/Recycling	No

Like county governments, municipalities also continue lack comprehensive waste reduction programs. Most municipal programs are limited to strictly to curbside and/or drop-off recycling programs. For example, of the 297 municipalities with recycling programs, less than 20 percent have buy-recycled policies in-place and less than ten percent have backyard composting programs. Municipalities will need to increase the waste reduction options available to their citizens to make further substantial progress towards decreasing waste disposal.

A simple analysis was conducted to determine the efforts of local government recycling programs in the top ten waste generating counties. It was expected that counties would contribute roughly the same percentage to overall disposal as to overall recycling. However, this was not always the case.

As outlined in the table below, only four of the top ten counties contributed a larger percentage to overall recycling than to waste disposal. Both Buncombe and Durham Counties fared well contributing roughly twice as much to state recycling efforts than to disposal.

At the other end of the spectrum, two counties providing limited recycling efforts were Cumberland County and Gaston County. Despite disposing of almost six percent of the waste in North Carolina, these two counties combined to provide less than two percent of recovery in North Carolina.

In all, the top ten waste producing counties were responsible for more than 47 percent of all local government recycling in North Carolina as compared to almost 50 percent of total disposal.

### **Disposal vs. Recycling in Ten Largest Waste Producing Counties FY 2000-2001**

<b>County</b>	<b>Disposal</b>	<b>Recycling</b>	<b>Contribution to Disposal</b>	<b>Contribution to Recycling*</b>
Mecklenburg	1,233,824	58,767	12.6 %	12.8 %
Wake	941,850	35,497	9.7 %	7.7 %
Guilford	730,012	36,696	7.5 %	8.0 %
Forsyth	465,134	16,660	4.8 %	3.6 %
Cumberland	351,620	3,092	3.6 %	0.7 %
New Hanover	259,305	10,686	2.7 %	2.3 %
Buncombe	251,472	26,495	2.6 %	5.8 %
Durham	224,407	18,574	2.3 %	4.1 %
Gaston	215,226	4,923	2.2 %	1.1 %
Cabarrus	187,508	6,163	1.9 %	1.3 %

<b>Total</b>	<b>4,860,358</b>	<b>217,573</b>	<b>49.9 %</b>	<b>47.5 %</b>
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\* Includes recovery from county and municipal sources. Yard waste and special waste (e.g., used oil) recycling were excluded.

Overall, fiscal year 2000-2001 was marked by very few changes in local government recycling collection programs. Only a handful of local governments dropped or added recycling collection programs. Counties for the most part continued to rely on publicly operated drop-off or convenience centers for the collection of recyclables. On the other hand, municipalities continued to rely on curbside collection of recyclables conducted by private contractors. Of the 245 municipal curbside programs, only 48 (20%) were publicly operated collection systems.

Curbside and drop-off recycling programs contributed roughly the same amount of material to overall recovery in FY 2000-2001. Mixed waste processing decreased to only 297 tons in FY 2000-2001. The reason for this decrease is most likely reporting errors, although last year mixed waste processing only accounted for two percent of recovery. Recovery from “other” programs (e.g., school recycling, commercial programs, etc.) also decreased in FY 2000-2001, declining to 17 percent of total recovery. As mentioned earlier, two large mixed C&D processors closed during FY 2000-2001, which resulted in the decline in recovery from “other” programs.

### **Total Recovery by Program Type**

<b>Program Type</b>	<b>Total Tons</b>		<b>Percentage of Total Recovery</b>	
	FY 1999-00	FY 2000-01	FY 1999-00	FY 2000-01
Curbside	173,569	189,346	36 %	41 %
Drop-off	195,790	189,548	41 %	41 %
Mixed Waste Processing	7,412	297	2 %	0 %
Other Programs	101,703	79,112	21 %	17 %

### **LOCAL GOVERNMENT YARD WASTE MANAGEMENT**

The following table shows figures on the management of yard waste by North Carolina local governments in FY 2000-2001. Variations in yard waste figures from year to year are mostly a function of natural disasters. Yard waste diversion for FY 2000-2001 is down 13 percent from FY 1999-2000, reflecting a return to “normal” after Hurricane Floyd and a few winter storms in some areas the previous year. There does seem to be a trend toward more use of LCID facilities for yard waste disposal, although increases in FY 2000-2001 from the previous year are partly due to residue from Floyd, as well as more accurate reporting by local governments. Regardless, as shown in the yard waste diversion chart below, the ban on yard waste from disposal with MSW consistently diverts over a half million tons of waste annually.

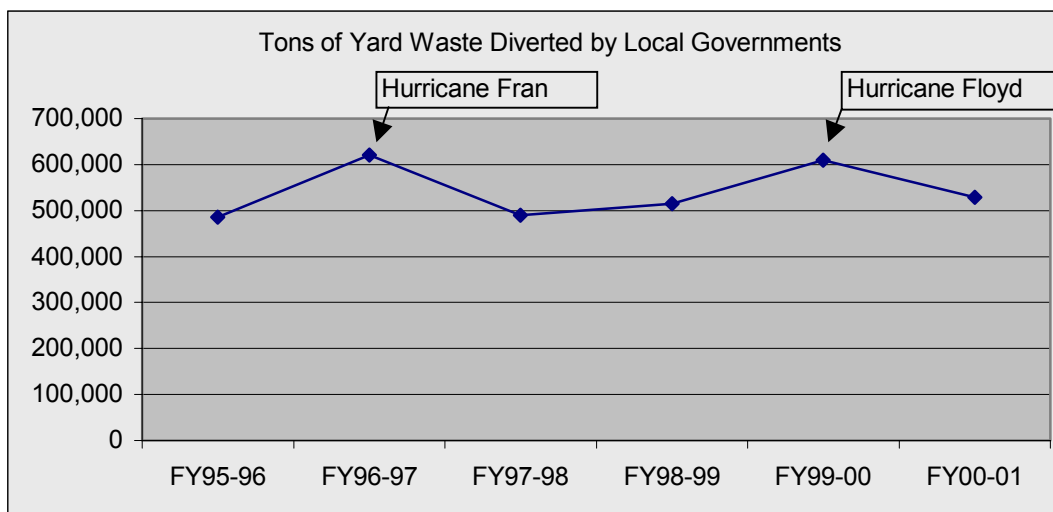
#### **Local Government Yard Waste Management for FY 2000-2001**

<b>Destination of Materials</b>	<b>Number of Local Governments using destination</b>	<b>FY 00-01 total tons by destination</b>
End Users (direct delivery)	88	53,606
Local Govt. mulch/compost facility	167	468,385
<b>TOTAL DISPOSAL DIVERSION</b>		<b>521,991</b>
Other Public Facility	82	92,977
Private Facility	38	66,605
LCID Landfill	78	141,913
<b>YARD WASTE TOTALS</b>		<b>730,509</b>

\*Tonnages under the row for “Total Disposal Diversion” are not included in diversion because of data redundancy, uncertainty about actual disposition of the waste, and actual disposal of noted tonnages.

\*\*Yard Waste Totals exclude tonnages for “other public facilities” because it is assumed these tons were captured under their categories.

### Yard Waste Diversion by Local Governments since FY 1995-1996



### LOCAL MANAGEMENT OF SPECIAL WASTES

The following table on special waste shows a general consistency in local programs over the years. The number of used oil collection programs has varied little, while the number of gallons climbed steadily until dropping by about 3 percent in FY 2000-2001. Only a handful of local governments run oil filter recycling programs. There has been some expansion in anti-freeze programs and gallons collected. Household hazardous waste programs declined by one, but the overall amount collected grew by 40 percent as some of the larger programs enjoyed healthy increases in pounds handled.

#### Local Government Special Waste Management, FY 1996-1997 to FY 1999-2000

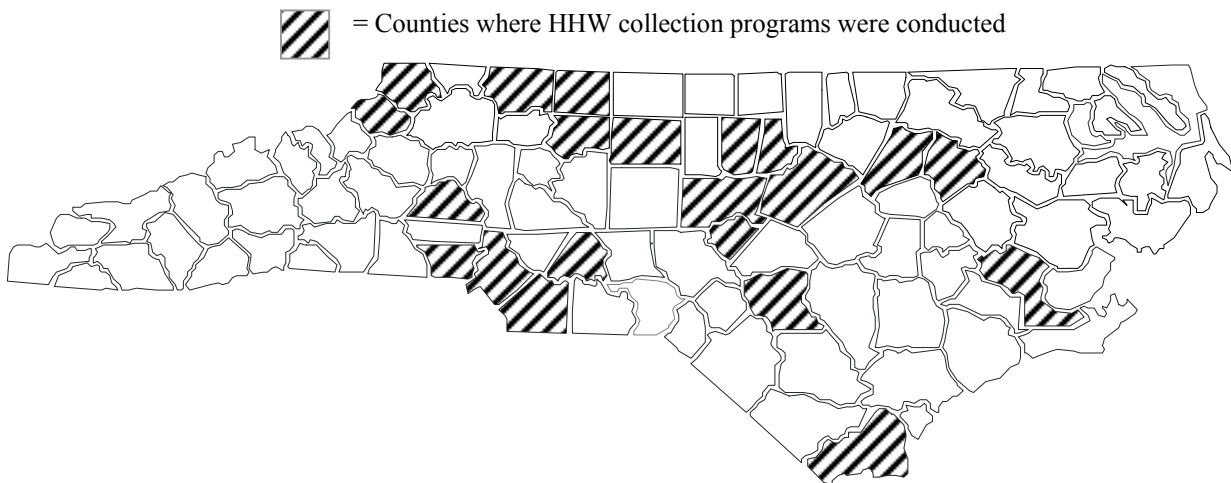
	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY00-01
<b>Used Motor Oil</b>					
Number of local programs	122	115	127	126	125
Gallons collected	575,859	646,646	736,436	871,533	845,670
<b>Oil Filters</b>					
Number of local programs	N/A	8	11	14	18
Tons collected	N/A	~6	6.61	10.34	16.15
<b>Antifreeze</b>					
Number of local programs	48	46	46	49	54
Gallons collected	9,026	8,770	9,568	15,977	33,304
<b>Lead Acid Batteries</b>					
Number of local programs	90	84	79	90	90
Number collected	59,112	61,118	58,237	74,737	82,043
<b>Household Haz. Waste</b>					
Number of programs	20	20	17	24	24
Number of permanent sites	7	9	10	13	12

Tons collected	653.24	657.29	1,017.78	965.58	1361.11
<b>Total cost reported</b>	<b>\$1,402,485</b> <b>(\$2,147/ton)</b>	<b>\$1,301,638</b> <b>(1,875/ton)</b>	<b>\$1,672,271</b> <b>(\$1,643/ton)</b>	<b>\$1,644,818</b> <b>(\$1,703/ton)</b>	<b>\$1,792,125</b> <b>(\$1316/ton)</b>

Conversions: Oil, 1 gal = 7.4 lbs.; Antifreeze, 1 gal = 8.42 lbs.; Lead Acid Battery, 1 battery = 35.9 lbs.

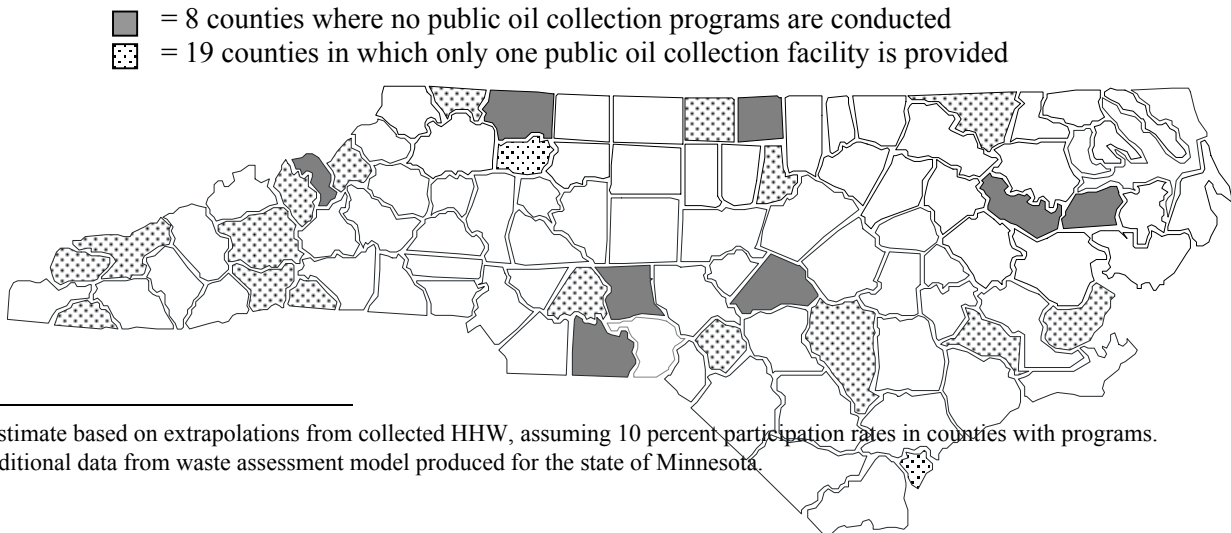
The map below shows where household hazardous waste collection programs took place in FY 2000-2001. With a few exceptions, most rural areas of the state were not served by HHW programs, leaving citizens few options for disposing of this waste except with their general garbage. With the expense of HHW programs (costing 10 times more per ton than a well run general recycling program) and with perhaps little motivation for many of the local governments now out of the landfill business, it is unlikely that the number of HHW programs will expand in the near future. Consequently, most HHW will enter landfills, at an estimated rate of between 33,000 and 50,000 tons statewide annually.<sup>4</sup>

#### Location of Household Hazardous Waste Programs in FY 2000-2001



The map below show gaps in public used oil collection programs in FY 2000-2001. Eight counties had no collection program whatsoever (including the absence of municipal programs within county boundaries). Additionally, in nineteen counties, only one publicly offered drop-off site was available to do-it-yourself oil changers. Citizens with used oil in some large counties would need to make over a twenty-mile round trip to recycle oil at a local government collection point.

#### Counties With Either One Or No Public Collection Point For Used Oil In FY 2000-2001



<sup>4</sup> Estimate based on extrapolations from collected HHW, assuming 10 percent participation rates in counties with programs. Additional data from waste assessment model produced for the state of Minnesota.

Although the lack of publicly available collection points does not necessarily mean that large amounts of used oil are illegally dumped, it does pose an extra challenge to citizens to handle oil properly. Moreover, the widespread lack of public oil filter collection programs makes it likely that most filters are disposed, which, despite a ban on oil disposal, introduces between 3.5 and 8 ounces of oil per filter into landfills.

## **STATE RECYCLING EDUCATIONAL EFFORTS**

To boost recycling participation rates and re-kindle public enthusiasm for waste reduction, an educational campaign was conducted in FY 2000-2001 under a partnership between the state, local governments, and private contributors. The campaign featured the “Recycle Guys,” animated characters representing different types of recyclable materials in television advertisements. More detail on the campaign is available in the attached report on the Solid Waste Trust Management Fund, but some of the highlights for FY 2000-2001 included:

- Twelve local governments and four private sector partners co-sponsored the campaign.
- The first round of television advertising from October 2000 - March 2001 reached 1.3 million households.
- A follow-up survey of schoolchildren finding that 77% of recognized the Recycle Guys, could repeat the messages the ads convey, and could sing the ad jingle.
- The Recycle Guys website, featuring waste reduction information, interactive games for children, teacher resources, and local recycling contacts, began receiving 1,800 web hits per month.
- A total of 10,000 sets of Recycle Guys trading cards, 10,000 activity books, 30,000 stickers and tattoos were distributed statewide.
- Recycle Guys costumed characters appeared at 20 events throughout the state.
- The Recycle Guys characters were integrated into local education and outreach efforts in City of Durham and the Counties of Orange, Vance, Granville, and Mecklenburg.

## **OVERVIEW OF RECYCLING MARKETS IN FY 2000-2001**

Markets for recyclable materials weakened over the course of FY 2000-2001, mostly as a result of a declining economy. Some materials also experienced longer term and more structural problems (e.g., ferrous metals) that caused difficulties for recyclers. Overall material prices, one of the key indicators of market strength, fell in FY 2000-2001. There is no sign, however, that weak prices translated into the widespread abandonment or constriction of recycling efforts. Nor, except for some acute circumstances, were there reports of material being turned away by markets—i.e., materials were still being accepted but at lower prices.

The following table shows the price history for certain commodities in North Carolina as tracked by the NC Recycling Business Assistance Center in a periodic survey of processors in eastern, central, and western North Carolina. The table clearly indicates the downward trend in prices through the year, with some reaching historic lows such as steel cans and glass.

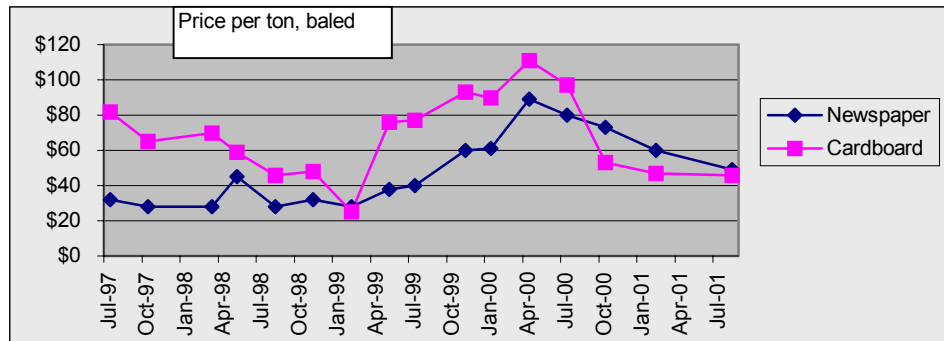
**Composite Recycling Market Prices Received by Major NC Processors, FY 2000-2001**

<b>Materials</b>	<b>Summer 2000</b>	<b>Fall 2000</b>	<b>Winter 2001</b>	<b>Summer 2001</b>
Aluminum Cans, Lbs., loose	\$ .51	\$ .51	\$ .54	\$.44
Steel cans, gross tons, Baled	\$ 26	\$ 24	\$ 4	\$ 5
PETE, Lbs. Baled	\$ .12	\$ .12	\$ .8	\$.90
HDPE, Lbs., Baled	\$ .15	\$ .14	\$ .07	\$.90
Newsprint, ton, baled	\$ 80	\$ 73	\$ 60	\$ 49
Corrugated, ton, baled	\$ 97	\$ 53	\$ 47	\$ 46
Sorted white office paper, ton, baled	\$208	\$132	\$147	\$ 95
Mixed paper, ton, baled	\$ 50	\$ 35	\$ 22	\$ 20
Clear glass, ton	\$ 36	\$ 33	\$ 31	\$ 30
Brown glass, ton	\$ 25	\$ 25	\$ 23	\$ 22
Green glass, ton	\$ 6	\$ 5	\$ 4	\$ 2

One material that has suffered continued weakness for the past two years is ferrous metals (e.g. steel). The weak domestic markets for ferrous metals result primarily from the global trade situation for finished steel: U.S. steel makers have had difficulty competing with foreign manufacturers, which in turn has decreased the domestic appetite for scrap. A weakening economy has further depressed scrap markets for not only ferrous metals, but also non-ferrous materials such as aluminum and copper. Local recycling programs have felt the ferrous market problems chiefly in the recycling of steel cans and white goods (scrap appliances). Rural areas of the state have had particular difficulty finding and keeping white goods collection and processing companies to serve their stockpiles. The white goods advanced disposal fee, with the majority of proceeds going to the counties to cover local costs, has helped mitigate some of the economic problems of white goods management.

Paper is a good leading indicator of the health of recycling markets. As mentioned above, paper in its various recyclable forms (newsprint, cardboard, office paper, etc.) is by far the largest single collected material in local public recycling programs, and is one of the most widely recovered materials in the state. However, paper recycling markets also experienced the negative effects of a declining economy in FY 2000-2001, as downward demand for finished paper goods reduced paper mill appetite for scrap paper. Other factors, such as consolidation in the paper industry and overcapacity in the production of some grades, also had a dampening effect.

The following chart shows a four-year price history for newsprint and cardboard through the end of FY 2001. The data used is derived from DPPEA surveys of processors in eastern, central, and western North Carolina. It shows how both newsprint and cardboard each dropped by at least half from previously high prices in April 2000, but failed to drop as far as the lows experienced in 1998-1999.



Another indicator of the status of markets is the response of local government recyclers to a question asked on the annual solid waste reports for FY 2000-2001. For the ninety-two local governments that directly market some or all materials themselves, fifty-three indicated trouble marketing at least some materials. The most common problematic materials in FY 2000-2001 were glass, plastic, and metals (including white goods and steel cans). Glass was mostly a problem in western NC with the closure of a major processing facility and a corresponding increase in market transportation distances. Plastics posed a problem in particular for rural counties, especially those without balers to densify the material prior to transport. Difficulties with metal markets was more pervasive, reflecting poor national price and demand conditions.

Difficulty in accessing markets, except for perhaps for ferrous metals, is in part a function of weak processing infrastructure in many areas of the state. Processing (e.g. the consolidation of materials, separation of commingled items, and transport preparation such as baling and containerizing) is the key linkage between collection programs and end markets. One of the best examples of a processing facility for curbside programs is a “MRF” or “material recovery facility.” The table below was included in the State Annual Report for FY 1999-2000 as an indicator of the health of the state-processing infrastructure. There have been no major changes for FY 2000-2001 in the population centers served and not served by MRF's.

#### Distribution of Material Recovery Facilities in North Carolina in FY 2000-2001

Major population centers served by MRF's	Major population centers not served by MRF's
<ul style="list-style-type: none"> <li>Greensboro</li> <li>High Point</li> <li>Charlotte/Mecklenburg</li> <li>Winston-Salem</li> <li>Durham</li> <li>Greenville</li> <li>Catawba County</li> <li>New Bern/Craven</li> <li>Davidson Co./Lexington/Thomasville</li> </ul>	<ul style="list-style-type: none"> <li>Asheville</li> <li>Fayetteville</li> <li>Raleigh/Cary/Wake Co.</li> <li>Burlington/Alamance Co.</li> <li>Wilmington</li> <li>Jacksonville</li> <li>Chapel Hill/Orange Co.</li> <li>Kannapolis/Concord/Salisbury</li> <li>Gastonia/Shelby</li> <li>Wilson/Rocky Mount</li> <li>Goldsboro</li> <li>Statesville/Mooresville</li> <li>Most rural counties in the state</li> </ul>



## **MARKETS FOR “NON-TRADITIONAL” MATERIALS**

The recycling of “non-traditional” materials not typically collected in local programs remained a dynamic force in FY 2000-2001. Some materials suffered temporary setbacks but rebounded, while other materials experienced growth in recycling capacity.

As in years past, FY 2000-2001 saw its share of new recycling activity for a variety of other waste streams. New businesses opened or expanded in number of areas of the state to recycle discarded electronics (e.g., computers). Some of these businesses acted as market outlets for some of the earliest local government electronics collection programs. A new company opened in Winston-Salem to recycle waste from North Carolina mirror manufacturers. Three of the largest composting companies in the state continued to take in more material in FY 2000-2001, with one of the companies set to expand into a second facility. Smaller composting operations also began to appear in various parts of the state—for example in Yancey County where a composter began to divert food wastes from area grocery stores.

Despite the closure of a couple of facilities, the recycling of construction and demolition (C&D) materials expanded overall in FY 2000-2001. C&D recycling got a big boost with the opening of a large centralized C&D processor in Raleigh. The facility, Material Reclamation, Inc., experienced steady growth in the receipt of materials throughout the year (up to 300 tons per day), and was successful in finding outlets for most of its processed materials. Smaller mixed C&D processors also began or continued operations in Pitt and Currituck Counties, and one was planned for opening in Rowan County. Although one of the main outlets for recycled gypsum wallboard experienced difficulties in FY 2000-2001, a wallboard facility near Charlotte continued to expand by finding new uses for its processed materials. A large composter in eastern North Carolina also began receiving collected wallboard from New Hanover County and made plans to receive larger volumes from Wake County in FY 2001-2002. In other areas, Habitat for Humanity “Re-stores” either opened new facilities (in Alamance and Guilford Counties) or expanded existing operations to sell salvaged building materials. Although the relatively cheap cost of disposal posed barriers to these efforts, C&D recycling capacity expanded in FY 2000-2001.

In summary, although FY 2000-2001 saw difficulties in markets for many recyclable materials, there remained positive momentum in the expansion of outlets for previously disposed items. This momentum was realized in tangible additions to North Carolina’s recycling infrastructure by a host of private businesses.

## **BUY RECYCLED EFFORTS**

The single most important way to improve recycling markets is to encourage the widespread purchase of recycled products. Another section of this report covers state agency activities in this area, which have been substantial. As mentioned above, local governments have not implemented buy-recycled efforts at nearly the pace at which they have implemented recycling programs, despite the boost that such efforts could give to their recyclable material outlets. No data is available on private sector buy-recycled efforts. Buy-recycled purchasing must be strengthened to improve secondary material markets and to improve the contribution the recycling industry can make to North Carolina’s economy.

## Chapter 5

### DEPARTMENT OF ADMINISTRATION

#### REPORT ON THE REVIEW AND REVISION OF BID PROCEDURES AND THE PURCHASE AND USE OF REUSABLE, REFILLABLE, REPAIRABLE, MORE DURABLE, AND LESS TOXIC SUPPLIES AND PRODUCTS FISCAL YEAR 2000-2001

The Department of Administration continues to promote the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products. The intent of this effort is to enhance the contribution of State agencies toward achieving the State's 40 percent waste reduction goal by the year 2001.

### WASTE REDUCTION/SUSTAINABILITY EFFORTS

When developing bid invitation language, requirements and specifications, purchasers continue to look at alternative methods and products, if such products result in waste reduction and their procurement is both practicable and cost-effective. Specifically, the Division of Purchase and Contract has taken the following steps:

#### E-Procurement Project

The E-Procurement project is a multi-agency effort that seeks to incorporate a single statewide business and purchasing module for all State agencies. When implemented on November 1, 2001, the module will enable an individual to select an item from an electronic catalog; requisition the item; receive the necessary approvals including funds checking; order the item; receive it; approve it; and then pay for it -- all electronically in a secure system.

#### Environmental Sustainability Benefits

- Reduction in paper and mailing expenses incurred during non-electronic business transactions
- Cost reduction to vendor by printing fewer catalogs
- Elimination of many other vendor expenses associated with non-electronic business transactions

Current information concerning recycled products on term contracts is available on the division's Internet Home Page located at <http://www.state.nc.us/PandC/>.

The Division has expanded its efforts in securing products and supplies that contain recycled content, especially post-consumer content, are reusable, refillable, repairable, more durable and less toxic. We have made 115 open market bid awards through our bid process that supports environmental purchasing. These include used equipment, packaging materials that contain post-consumer recycled content, carpet and background on companies' efforts to help protect the environment and others.

*Included in the 115 open market bid awards are awards for used equipment and vehicles that have saved the State \$742,792.00 during this period.*

State Surplus Property's home page lists current recycling contracts at their Web site <http://www.doa.state.nc.us/ssl2/ssp.htm>. Bids are available for downloading via Internet. During the year 2000-2001, the Term Contracts Group, Division of Purchase and Contract, implemented the following sustainability efforts:

- The new oil filter contract allows for multi-packing, which reduces the number of individual boxes for the filters. This helps reduce trash that would otherwise be generated. There are more Statewide pickup points for vehicles to allow agencies/non-state agencies to pick up vehicles closer to their location. This saves on fuel use and time spent with vehicle deliveries.
- The "Domestic Appliances" contract requires all refrigerators, washers and dishwashers to be "Energy Star" qualified. This is a stringent measurement of energy efficiency monitored by the Department of Energy. The pay off is a more efficient appliance that uses less energy over its lifetime.
- The office paper contract has both 100% and 50% post-consumer and chlorine free copy paper. Additionally, all paper on this contract is recycled.
- Remanufactured toner cartridges are available for use by all State agencies. These cartridges are refillable and therefore avoid being added to the waste stream.
- Storage battery casings are reusable and therefore avoid being added to the waste stream.
- The new floor maintenance machine contract includes a category for automatic scrubbers using gel-sealed batteries. Gel-sealed battery exhausts 1/40" the amount of hydrogen and sulfuric acid gases as its wet-lead battery counterparts. The gel-sealed battery has an operating life that is 2½ or 3 times longer than the wet-lead acid variety. It is longer lasting and less toxic.
- Filing Cabinets, Lateral. This is a statewide term contract for two years. It will be used by all State agencies. Files contain 5% recycled content. Corrugated boxes have a minimum of 50% post-consumer waste and are recyclable. Contractor will re-purchase the files at the end of their use.

Seven new term contracts have been developed that support sustainability:

1. New Wood Library Term Contract. This is a statewide term contract for one year awarded to seven contractors. All contractors support sustainability through different practices although the end-product does not contain any recycled content but is made from a renewable source. The packaging is recycled and recyclable; wood scraps are turned into mulch and blanket wrapping for shipping; and recycled wood is used to make particle board. Solid wood furniture is also more durable.
2. New Ammunition Contract. This is a one-year statewide term contract for use by all agencies and non-state users. The brass shell casings can be saved and recycled and others can be reloaded.
3. New External Defibrillator Contract. All packaging material can be recycled and the defibrillators can be refurbished.
4. New Enteral Feeding Pumps. All packaging material can be recycled and the pumps can be refurbished.
5. New Musical Instruments. Some parts can be reused, instruments can be traded in and reconditioned, and one company donates trade-ins to the Links Program for the needy. All corrugated containers are 100% recyclable.

6. New calculator contract. All packaging materials can be recycled.
7. New Carpet. This contract includes Tufted, Nylon -21 Brands. This is a statewide term contract for two years. It will be used by State agencies. To promote sustainability, this contract contains carpets with recycled contents. All carpets that are removed will be recycled or non-land filled.

The Division of Purchase and Contract continues to promote the posting of IFB's for non-state agencies on IPS.

### **Items Aiding Waste Reduction That Are Purchased By State Agencies through Term Contracts and Open Market**

The following items purchased by State agencies meet the criteria for aiding waste reduction and are reusable, refillable, repairable, more durable, and/or less toxic than their traditional counterparts:

#### **Reusable**

- Digital cameras (new item) reduces need for film and chemicals
- Re-chargeable drycell batteries
- Ammunition, cartridge refill
- Freon recovery system (filters reusable)
- Plastic tableware
- Recycled carpet
- Recycled paper
- Recycled content furniture (not traditional wood)
- Remanufactured toner cartridges for laser printers
- Solvent degreaser (reuses solvent)
- Tire recapping & repairing service
- Vacuum bags
- Wiping cloths

#### **Refillable**

- Ammunition, cartridge refills
- Batteries, vehicle & storage
- Calendars
- Drums, steel
- Fire extinguishers
- Mechanical pencils
- Pens

#### **Repairable**

- Pencil sharpeners
- Tire recapping & repairing service

#### **More Durable**

- Above-ground vaulted fuel storage tanks
- Classroom furniture
- Electronic lamps & ballast
- Electronic vacuum cleaners
- Flags
- Grader blades
- Grader slope attachment
- Kindergarten furniture
- Paint brushes
- Plastic lumber
- Plastic tableware
- Rubber bands
- Staplers
- Vertical file cabinets
- Wood case goods
- Wood library furniture

#### **Less Toxic**

- Correction fluid
- Electronic lamps & ballast
- Fertilizers/farm chemicals
- Inks for printing (using non-petroleum-based inks)
- Instructional art materials
- Markers
- Scientific products (eliminating Freon)
- Floor maintenance machine batteries

#### **Longer Lasting**

- Pens

#### **Recyclable**

- Pens
- Carpet

#### **Washable**

- HVAC filters

## Chapter 6

### DEPARTMENT OF TRANSPORTATION

#### Recycling and Solid Waste Management Report Fiscal Year 2000-2001

This report is a summary of the recycling and solid waste management efforts within the North Carolina Department of Transportation for Fiscal Year 2001 (July 1, 2000 - June 30, 2001) as required by G.S. 136-28.8(g) which mandates the Department to prepare an annual report on the amounts and types of recycled materials that were specified or used in contracts during the previous fiscal year. The types of recycled materials incorporated into the projects noted would normally contribute to the consumer and industrial waste streams, reducing the problem of declining space in landfills.

Efforts to utilize recycled and solid waste materials are in response to the requirements of Senate Bills 111 and 58, ratified in 1989 and 1993, respectively, by the General Assembly of North Carolina. Senate Bill 111 mandates the Department to research and incorporate recycled/recyclable materials into highway construction projects, specifically ground waste rubber tires and recycled mixed plastic materials. Senate Bill 58 requires the use of recycled materials for guardrail posts, right of way fence posts, and sign supports where economically practical and when engineering standards are met.

#### HIGHWAY CONSTRUCTION PROJECTS

1. Two projects included scrap chipped tires as embankment fill material - one in Davidson County (1,279,000 tires) and another in Catawba County (1,151,077 tires).
2. One project on I-95 from the Johnston County line to Virginia included guardrail with 23,283 recycled plastic offset blocks.
3. Two projects utilized Hot-in-place asphalt recycling - US 74 in Polk County and I-85 in Cleveland County.
4. One project on US 64 in Washington County included 12,900 cubic meters of Processed Silica.
5. An alternative to utilize post-industrial scrap shingles in the asphalt mix was included in one project in Wayne and Wilson Counties. This usage will be included in the 2002 Standard Specification Books as an alternate for all construction contracts.
6. Current specifications are being revised to allow for the use of 10 - 12% fines from aggregate in concrete mixes for projects in the mountain regions.
7. See Attachment 1 (behind this Chapter) for quantities of recycled materials used for the 2001 Fiscal Year. Attachment 2 (behind this Chapter) lists quantities from 1989 to June 30, 2001.

#### CONTINUOUS PROCESS IMPROVEMENT

Nine entries were submitted for the 2001 Continuous Process Improvement Awards in the Environmental Sustainability category. These included the following:

1. *Monarch Butterfly Program*-Due to development, farming practices and changes in land use, milkweed, which monarch larvae feed exclusively on, is becoming increasingly less common

throughout the United States, including North Carolina. There has been a corresponding noticeable decline in the number of monarchs that visit North Carolina during their migration. The Roadside Environmental Unit agreed to research the downward trend in the monarch butterfly population and as a result, the “Monarch Butterfly Program” was implemented. A total of 40 acres of three different species of milkweed have been planted on DOT right-of-way sites in all 14 Highway Divisions. All three species are native to North Carolina and are preferred by monarchs for nectar and/or larval feeding.

2. Cardboard Baler—The NCDOT spends thousands of dollars annually handling recyclable materials, including over 500,000 pounds of cardboard. It was determined to establish a cardboard recycling program beginning with cardboard balers installed at three locations in the Raleigh area. The initial results have been excellent. Customer satisfaction at each location has been met or exceeded; hauling costs at these three locations has been reduced \$1,020 annually; an estimated \$4,500 revenue will be generated; and 260 trips from a 5 ton dumpster truck emitting exhaust fumes into the atmosphere will be eliminated.
3. TeleDOT—The DOT began two pilot flexible work programs to reduce the strain on North Carolina’s highways, which decreases congestion and improves air quality. The Alternative Work Schedule Program allows employees to work four 10-hour workdays. The Telework Program allows employees to work from home, the road, or another satellite location while connected to the office through a computer, fax and/or telephone. Additionally, the programs allow DOT to compete for and retain quality employees.
4. CRS-2 Loading Hose Overflow Collector—Davie County Maintenance reviewed the former practice of loading CRS-2 into the asphalt distributor, and discovered a considerable amount of CRS-2 was dripping onto the ground after loading had occurred. The Maintenance Yard developed a sealed containment system for connecting the CRS-2 hose after the loading is completed. This prevents the CRS-2 from dripping onto the ground and adversely effecting the environment, as well as preventing groundwater from entering the storage container.
5. Chipping to Reduce Brush Volume—Orange County Maintenance began utilizing a contracted chipper to reduce the brush volume generated from the clearing and grubbing of roadway rights of way prior to grading for secondary roads. The chips were spread along the right of way limits or to nearby property owners at no cost to the department. The greatest benefit was the reduction of waste volume destined for landfills. It was estimated that 1,322 dump truck loads of material, approximately 21,149 cubic yards were diverted from local landfills. This resulted in a cost saving of \$7,971 during the 2000 construction season in Orange County.
6. Hydrostripper—Aluminum sign recycling is conducted through arrangements between the NCDOT and Department of Corrections. DOC purchased a Hydrostripper that uses a high-pressure water system to remove old reflective material from the signs. Because it uses water, the signs are not ground away which allows the aluminum to be used repeatedly. The most outstanding feature of this method is that the aluminum is not affected during the cleaning process, thereby eliminating the need to reapply the chromate coating.
7. Environmental Program Coordination—Division 4 formed a team comprised of the Division Environmental Officer, Assistant District Engineers from the three districts and the Bridge

Maintenance Supervisor to handle the need for environmental compliance, coordination and notification for maintenance activities in the Division. This resulted in Division-wide training modules by the DEO to raise environmental awareness and understanding; batch consultations were performed with the USFWS on Threatened and Endangered species issues by the DEO; Division-wide prohibition on work performed outside of NCDOT right of way without environmental review; improved coordination between Division Design and Construct program and Project Development and Environmental Analysis Branch; and improved rapport between Division personnel and regulatory agencies.

8. Maintenance Yard Improvement—In 1998 the State of North Carolina implemented a Stormwater Pollution Prevention Plan (SPPP) for Maintenance yards. Each year at different times the SPPP leader has to observe different Stormwater Discharge Outfall locations for pollutants such as salt runoff, metallic debris, oils, fuels, etc. In order to protect metal objects subject to rust, several buildings on site were remodeled and structurally improved to provide shelter for salt spreaders, tailgates and other various pieces of equipment. This has reduced the runoff of hazardous salt material and rust to streams.
9. Recycled Power Poles—The Williamston Bypass construction project of US 64 crossed a baseball field previously owned by the Town of Williamston. The right of way acquisition made the Department the owner of the field and all appurtenances, which included 13 power poles. The quote to remove and dispose of the poles was \$10,800. However, the Williamston Fire Department was in need of poles for a training facility and agreed to remove the poles at no cost to the Department. By donating the poles to the Fire Department the NCDOT realized savings of \$10,800; the Williamston Fire Department obtained free materials for the training facility; a hazardous material was recycled, the waste stream reduced; and the NCDOT increased it's contribution to the community.

## **AWARDS AND PUBLICATIONS**

- The NCDOT won FHWA's 2001 Environmental Excellence Award - Recycling Category for its coordination with the Wake County Habitat for Humanity deconstructing homes within the DOT's rights of way that had to be moved or torn down.
- The NCDOT was featured in Public Roads, July/August 2000 Issue.
- NCDOT's Roadside Environmental Unit and the use of rubber mulch were featured in Waste Age Magazine.

For up-to-date information on NCDOT's use of recycled materials, visit their Web site at [http://www.doh.dot.state.nc.us/preconstruct/highway/dsn\\_srvc/value/](http://www.doh.dot.state.nc.us/preconstruct/highway/dsn_srvc/value/).

**Attachment #1**

**N.C. DEPARTMENT OF TRANSPORTATION  
RECYCLING & SOLID WASTE MANAGEMENT SUMMARY  
FISCAL YEAR 1999 TOTALS (JULY 1, 2000- JUNE 30, 2001)**

<b>Description</b>	<b>Usage</b>	<b>Quantity</b>
<b>Waste Scrap Tires</b>		
Chipped Tires (#4000101)	Roadbed Embankment Component	2,430,077 TIRES
Rubber Mulch (#4000614)	Wood Mulch	8 TONS
<b>Glass</b>		
Glass Beads (product code #4000304)	In Paint & Long life pavement markings	2,900 TONS
<b>Plastic</b>	Guardrail Offset Blocks (#4000201)	23,283 EA
<b>Fly Ash</b>	Concrete Mix Additive (#4000402)	5,700 LB
	Roadbed Embankment Component (#4000401)	87,632.69 CY
<b>Processed Silica</b>	Embankment Fill	12,900 M3
<b>Recycled Asphalt Pavements</b>	Additive to Asphalt Pavements	36,094.52 TONS
	Hot-in-Place Recycling (#4000124)	337,844.50 SY
	AC from RAP	84.69 TONS
<b>Asphalt Pavement Millings (#4000119)</b>	Additive to Asphalt Pavements	410,947 SY
<b>Hardwood Bark Mulch (#4000603)</b>	Soil Amendment	25,770 CY
<b>Poultry Litter Compost (#4000613)</b>	Fertilizer	150 CY
<b>Recycled Asphalt Cement (#4000606)</b>	Cement	77.48 TONS
<b>*Wooden Breakaway Posts (#4000609)</b>	Guardrail Offset Blocks	35 EA
<b>*Unclassified Excavation (#4000605)</b>	Borrow	500 CY
<b>*Recycled Concrete (#4000804)</b>	Fill Material	15,000 CY

\*These items were salvaged and re-used by maintenance operations.



**Attachment #2**

**RECYCLING & SOLID WASTE MANAGEMENT SUMMARY  
TOTALS JANUARY, 1989 THROUGH JUNE, 2000**

<b>Description</b>	<b>Usage</b>	<b>Quantity</b>
<b>Waste Scrap Tires</b>		
Chipped Tires	Roadbed Embankment Component	9,378,143 TIRES
Crumb Rubber	Crack Sealant Soil Amendment	500 LB 20 TONS/(APP. 2,025 TIRES)
Chipped Tires	Sound Wall Panels	8,000 TIRES
Tire Sidewalls	Ballast for Traffic Drums	46,631 EA
Lightweight Fill Chipped Tire Material	Soil substitute in culvert backfill	47,211 TIRES
Crumb (Ground) Rubber	Asphalt pavement component	124,512 TIRES
Whole Tires	Retaining Wall	2,500 TIRES
Rubber Mulch	Wood Mulch	8 TONS/(APP. 800 TIRES)
	<b>Total</b>	<b>9,609,822 TIRES</b>
<b>Plastics</b>		
Plastic Lumber	Guardrail Offset Block	44,263 EA
Plastic Lumber	Type III Barricades	600 FT
Recycled Plastic Fence Posts	Right of Way Fencing	7,600 EA
Recycled Plastic Delineator Posts	Roadside Safety Delineators	676 EA
Recycled Plastic Pipe	Subsurface Drain Pipe	6,840 LF
Recycled Plastic Pipe	Fittings (Y, T, & L's)	54 EA
Recycled Plastic Pipe	Temporary Slope Drain	3,580 LF
Recycled Plastic Traffic Separators	Railroad Safety Device	2,922 LF
<b>Glass</b>		
Glass Beads	In Paint & Long life pavement markings	52,096 TONS
Crushed Glass	Aggregate backfill for subdrainage pipe	95 CY
Crushed Glass	Pipe Foundation Conditioning	333 TONS
Crushed Glass	Aggregate Base	203 TONS
<b>Fly Ash</b>	Roadbed Embankment Component	144,118 CY
	Additive to asphalt pavement	40,800 TONS
	Concrete Mix Additive	1,484,327 LB
	Flowable Fill	6 CY
	Sign post w/concrete core	1,350 EA
<b>Steel Slag</b>	Aggregate Stone Base	224 TONS
<b>Bottom Ash</b>	Borrow	2,707 CY
<b>Recycled Asphalt Pavement</b>	Asphalt Mix Additive	745,632 TONS
	Hot-in-Place Recycling	675,689 SY
	AC from RAP	1,775 TONS
<b>Asphalt Pavement Millings</b>	Asphalt Mix Additive	1,494,942 SY
<b>Asphalt Shingles</b>	Asphalt Mix Additive	13,825 TONS

<b>Processed Silica</b>	Borrow	46,072 CY
<b>Recycled Aggregate Base Coarse</b>	Aggregate Base Coarse	850 TONS
<b>Recycled Polyester Resin</b>	Weedmat	963 SM
<b>Description</b>	<b>Usage</b>	<b>Quantity</b>
<b>Recycled Polyester &amp; Hog Hair</b>	Cold Mix Asphalt Patching Material	20 LB
<b>Unclassified Excavation</b>	Fill Material	1,187,278 CY
<b>18" Corrugated Metal Pipe</b>	18" Corrugated Metal Pipe	40 LF
<b>Berm Ditch</b>	Borrow	183 LF
<b>Recycled Asphalt Cement</b>	Asphalt Cement	1,671 TONS
<b>Refurbished Traffic Signal Heads</b>	Traffic Signal Heads	11 EA
<b>Type IV Double Faced Concrete Barrier</b>	Concrete Barrier	1,280LF
	Retaining Wall	2,700 LF
<b>Wooden Breakaway Posts</b>	Reuse - Guardrail Offset Blocks	215 EA
<b>Concrete</b>		
Recycled Concrete	Pavement Base Course Material	3,400 TONS
Crack and Seat Concrete	Similar to Rubblizing	260,778 TONS
Rubblized Concrete	Reuse as pavement base course	211,050 TONS
Concrete Pipe	Reuse as Concrete Pipe	1,100 LF
Recycled Concrete	RCA Shoulders	21,505 TONS
Recycled Concrete	Fill Material	15,000 CY
<b>Landscaping/Wildflowers/Roadside</b>		
Lime-Stabilized Municipal Sludge	Soil amendment for wildflower beds	704 TONS
Hydromulch	Mulch for grass establishment	38 TONS
Aged Leaf Mold & Yard Debris	Soil amendment	2,370 TONS/1,000 CY
Malinckrodt Ammonium Sulfate Liquid	Topdressing Fertilizer	420,948 GAL
Soil Derived from Demolition Debris	Soil Amendment	1,742 TONS
Nuggets of Broken Brick	Mulch	1,000 BAGS
Calcium/Sulfur Supplement	Soil Amendment to sodic soils	3 TONS
Bioremediated Petroleum Affected Soils	Soil Amendment	920 CY
Vegetative Clearing Debris	Erosion Control mulch	27 AC
Hog Waste Compost	Fertilizer	25 CY
Cotton Gin Waste	Soil Amendment	7,130 CY
Clearing Debris	Mulch	200 CY
Hurricane Fran Mulch	Soil Amendment	200,000 CY
Hardwood Bark Mulch	Soil Amendment	8,506 TONS/247,576 CY
Advanced Alkaline Sludge	Soil Amendment	495 TONS 414 ACR
Municipal Sludge	Soil Amendment for Vegetative Cover	141.5 ACR/8,610 TONS/ 200 CY
Swine Waste	Bion Soil Research/Experimentation	900 LB.
Poultry Litter	Fertilizer	425 TONS/11,584 CY

## Chapter 7

### DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES

#### WHITE GOODS MANAGEMENT ANNUAL REPORT FINAL REPORT APRIL 1, 2002

This report is based on information for FY 2000-2001 supplied by the counties in their Annual Financial Information Report. The AFIR is submitted annually to the Local Government Commission in the Department of State Treasurer.

The AFIR is due to the Local Government Commission by November 1 of each year, and this white goods management report is due to the Environmental Review Commission on January 15. This report was previously required on February 1, but is now part of the consolidated annual environmental report that is due January 15. This change was made by House Bill 1006 (Session Law 2001-452) in 2001.

At the time the report was prepared (January 9, 2002) for its January 15, 2002 due date, reports had been received from only 83 counties. Consequently, a preliminary report was submitted to the General Assembly on January 15. This **final** report is being submitted after receiving reports from all but two counties. The two counties that have not reported as of April 1 are Hoke and Bertie.

#### EXECUTIVE SUMMARY

- Net white goods advance disposal fee collections in FY 2001-2002 totaled \$4,435,946.53. The monies were dispersed as follows:
  - \$2,241,238.87 Allocated for direct distribution to counties\*
  - \$ 852,047.60 Allocated for white goods management account
  - \$ 340,819.04 Solid waste management trust fund
  - \$ 175,708.54 Revenue Department cost of collections
  - \* \$ 863,191.87 Actual amount distributed directly to counties
  - \$1,378,047.00 Forfeited by ineligible counties
- The balance in the white goods management account at the end of FY 2000-2001 was \$4,120,031.92. This money is used to fund counties that incur deficits in their white goods management accounts.
- The 98 reporting counties spent \$5,592,983, of which:
  - \$3,878,955 was used for daily operations
  - \$1,606,942 was used for capital improvements
  - \$ 107,086 was used for the clean up of illegally dumped white goods.
- *Based on 1999-2000 reports*, thirty-four counties became ineligible for quarterly distributions of the white goods advance disposal fee proceeds on March 1, 2001.

Thirty-two counties were ineligible because they reported having an undesignated balance that exceeded the threshold amount (25 percent of the amount of white goods advance disposal fee proceeds a county received, or would have received if it had been eligible during the preceding fiscal year).

Two counties became ineligible because they had not submitted their 1999-2000 AFIR by March 1, 2001.

Fourteen counties regained eligibility later in the year by lowering their undesignated balances.

- *Based on 2000-2001 reports* received by January 9, 2002, twenty-six counties have balances that exceed their threshold amounts and will not be eligible for further distributions of the white goods disposal fee. Two additional counties became ineligible because they had not submitted their 2000-2001 AFIR by March 1, 2002.

The costs of managing white goods increased during FY 2000-2001 because of weaker scrap metal markets. Many scrap metal companies have stopped paying counties for white goods, and in some cases, now charge to remove white goods from county collection sites.

Many counties that developed reserve funds in the past are now depleting these funds to pay for daily operations and program upgrades.

## **PROGRAM RESULTS**

- The white goods management program has drastically reduced illegal dumping of appliances and other white goods in streams, road banks, woodlands and other sites during the last seven years. The removal of landfill disposal fees for white goods and a more convenient infrastructure for their collection are the cause.
- White goods funding has made it possible to clean up illegal dump sites.
- White goods programs in many counties had previously been given very low priority and were underfunded. This program has made it possible for counties to purchase specialized equipment as well as construct collection and loading areas to provide improved white goods management.
- The quantity of white goods received at county collection sites in FY 2000-2001 from 83 counties was 51,846 tons, or an estimated 1,296,150 individual appliances. By comparison, only 25,749 tons or 644,000 appliances were collected in FY 1991-1992. This represents an over 95% increase. Without the program, large numbers of appliances likely would have been dumped or stockpiled in FY 2000-2001.

## **RECOMMENDATIONS**

- Counties should continue to try to develop more self-sustaining metal recycling programs. Some need to make greater efforts to upgrade their white goods processing areas. Options include constructing concrete pads, providing containers, and buying equipment to move white goods without disrupting CFC lines.
- Counties should consider cooperating when approaching recyclers for contracts and making arrangements for transporting white goods.
- Counties with high per unit costs for white goods management need to structure their programs to minimize costs, especially while scrap metal markets are depressed.
- The General Assembly should allow the resumption of funding for the White Goods Management Account in FY 2002-2003. Funds in the account will be depleted by the end of FY 2001-2002.

## **WHITE GOODS MANAGEMENT BY COUNTY GOVERNMENTS**

"White goods" are defined in GS 130A-290 (a)(44) as: "refrigerators, ranges, water heaters, freezers, unit air conditioners, washing machines, dishwashers, and clothes dryers and other similar domestic and commercial large appliances."

Historically, county landfills provided a designated area for scrap metals, including white goods. They then sold or gave the metals away for recycling. County management practices varied greatly. White goods have generally had lower market value than other forms of scrap metals. Recent environmental concerns about CFC refrigerants in some appliances have made white goods management more difficult. Many counties charged the public special disposal fees for white goods.

Proper management of disposed white goods has traditionally received low priority. The presence of dumped white goods often encourages dumping of other wastes, such as tires, shingles and household garbage.

White goods were banned from landfill disposal in 1989 to encourage recycling and proper management. More comprehensive white goods management laws were enacted in 1993. The legislation included an advance disposal fee to cover the cost of white goods management. In 1998, Senate Bill 124 extended the fee for three additional years and reduced it to \$3. Previously the fee was \$10 for white goods that contained CFC's and \$5 for white goods that did not contain CFC's. The sunset on the fee was removed in 2000 by House Bill 1854 (Session Law 2000-109).

**A major accomplishment of the white goods management program has been to drastically reduce illegal dumping of white goods by requiring counties to provide collection sites that receive white goods at no cost to the disposers.** The white goods program also provides counties with funds and equipment to clean up existing white goods dump sites.

The adoption of Senate Bill 124 in 1998 encouraged counties to initiate clean up of illegal white goods dumps. Counties may use proceeds from the white goods advance disposal fee to clean entire sites with more than 50 percent white goods. Sites with less than 50 percent white goods may use the funds to pay for that percent of costs incurred to remove and dispose of white goods.

Another accomplishment is implementing proper management practices for capturing and recycling CFC's, to avoid illegal venting into the atmosphere. Various oils from appliance motors are also better managed, further reducing negative environmental impacts.

The white goods program has been increasingly important to counties as they deal with recent declines in scrap metal prices. Depressed prices have caused market disruptions that include the bankruptcy and closure of metal recycling companies. Counties can rely on funding and technical assistance from the white goods management program as they seek alternate markets.

Because scrap metal dealers no longer offer free hauling services, some counties may need to increase their capacity to load white goods. This may require some counties to cooperate when seeking contracts with metal recyclers and arranging for white goods transport.

## **ADVANCE DISPOSAL FEE ALLOCATION**

Net white goods advance disposal fee collections in FY 2000-2001 totaled \$4,435,946.53. The monies were dispersed as follows:

\$ 2,241,238.87*	Allocated for direct distribution to counties
\$ 852,047.60	Allocated for white goods management account
\$ 340,819.04	Solid waste management trust fund
\$ 175,708.54	Revenue Department cost of collections

* \$ 863,191.87	Actual amount distributed directly to counties
\$1,378,047.00	Forfeited by ineligible counties to the white goods management account

The counties did not receive the total amount of disposal fee proceeds designated in 2000-2001. Although a total of \$2,241,238.87 (or 72 percent of the net disposal fee collections) was designated for distribution, **ineligible** counties forfeited \$1,378,047.00. These funds were distributed to the white goods management account, which receives 20 percent of the net collections.

By law, DENR reports to the Department of Revenue on March 1 which counties will not receive funds distribution. Counties that return to eligible status may be re-instated by notifying the Division of Waste Management.

## **COUNTY RESERVES**

Some counties incur minimal costs in their white goods management programs. As a result, about 20 counties have developed reserves. Despite these reserves, some counties are reluctant to make larger financial commitments for the equipment and site improvements needed for better white goods management.

The Solid Waste Section has encouraged county self-sufficiency by investing in the infrastructure for a self-sustaining metal recycling program. Metals segregated by type and kept free of contaminants have higher value to scrap metal dealers than mixed metals and contaminated metals. Unfortunately, many counties have not done this.

Counties report on their white goods management program in their AFIR to the Local Government Commission by November 1. Counties with surplus funds at the end of FY 2000-2001 reported the portion of funds designated for white goods expenses, such as planned site improvements or equipment purchases. Counties with non-designated funds, whose amounts are greater than 25 percent of their annual distributions, will be ineligible after March 1, 2002. Withheld funds are forfeited to the white goods management account.

## **COUNTIES THAT FORFEITED FUNDS IN 2001 (BASED ON 1999-2000 AFIR REPORTS)**

- Thirty-four counties became ineligible for quarterly distributions of the white goods advance disposal fee proceeds in March 2001 (see following list).
- Twenty-nine of the thirty-four counties were ineligible because they reported an undesignated balance in their FY 1999-2000 AFIR, which exceeded the threshold amount. The threshold equals 25 percent of the amount of white goods advance disposal fee proceeds

a county received, or would have received if it had been eligible during the preceding fiscal year.

- Five of the thirty-four counties became ineligible because they had not submitted their 1999-2000 AFIR by March 1, 2001 (see list below).

**Counties That Became Ineligible For Advance Disposal Fee Proceeds In March 2001  
(Based on 1999-2000 AFIR reports)**

Alamance	Franklin	Jones	Orange	Sampson
Alexander	Granville	Martin	Pasquotank	Tyrrell
Cabarrus	Guilford	Mecklenburg	Polk	Wake
Cumberland	Halifax	Nash	Randolph	Warren
Davie	Harnett	New Hanover	Richmond	Wilkes
Forsyth	Hertford	Onslow	Rowan	

Avery, Bertie, Haywood, Hoke, and Pender Counties failed to submit complete information on white goods management in their FY 2000-2001 Annual Financial Information Reports by March 1, 2002.

Fourteen counties subsequently regained eligibility when they depleted their reserve funds. Payouts resume after they notify the Solid Waste Section of their change in eligibility.

**Counties That Will Become Ineligible for Advance Disposal Fees In March 2002  
(Based on 2000-2001 AFIR Reports)**

Counties that will not receive advance disposal fee distributions are:

Alamance	Franklin	Polk	Tyrrell
Alexander	Harnett	Richmond	Wake
Bladen	Hertford	Robeson	Warren
Caswell	Jones	Rowan	Wilkes
Cumberland	Martin	Sampson	Yadkin
Davie	Mecklenburg	Scotland	
Forsyth	Onslow	Surry	

Counties that did not report by March 1, 2002 are also ineligible for future distributions. This includes Bertie and Hoke. County balances are listed in Appendix Table 3 at the end of this report.

**COSTS OF WHITE GOODS MANAGEMENT**

Counties can use white goods advance disposal fee proceeds for daily expenses incurred in recycling white goods. The Revenue Department disburses the proceeds quarterly.

Most county white goods programs are not self-sustaining and require subsidies. Counties may also use the funds for one-time expenses such as purchasing specialized equipment and making site improvements to better manage white goods.

Costs have increased over the past few years because of the decline in scrap metal markets. The decline is due to increased imports of metals from foreign markets. Many recyclers have gone out of business. The remaining recyclers have reduced what they will pay for the metals. Some recyclers now charge a fee to take the metals.

Eighty-three counties reported spending a total of \$5,592,983 for white goods management during FY 2000-2001 (Appendix Table 1 at end of this report). This included \$3,878,955 for daily costs such as hauling, freon extraction and labor. Counties spent \$1,606,942 on capital improvements, such as loaders, site improvements, and containers. Counties also reported spending \$107,086 for the clean up of illegally dumped white goods. Daily operating costs varied greatly due, in part, to reporting, level of services provided, geography and access to recycling markets.

Counties reporting the highest and lowest daily operating costs (excluding capital improvements) for white goods management were:

<b><u>Highest Operating Costs Reported</u></b>		
<b>County</b>	<b>Cost per ton</b>	<b>Cost per appliance*</b>
Scotland	\$178.16	\$7.13
Perquimans	\$189.82	\$7.59
Orange	\$189.98	\$7.59
Tyrrell	\$201.04	\$8.04
Cumberland	\$305.99	\$12.24
Gaston	\$405.78	\$16.23
Montgomery	\$479.29	\$19.17

<b><u>Lowest Operating Costs Reported</u></b>		
<b>County</b>	<b>Cost per ton</b>	<b>Cost per appliance*</b>
Surry	\$2.33	\$0.09
Guilford	\$8.99	\$0.36
Person	\$9.05	\$0.36
Swain	\$10.19	\$0.41
Lincoln	\$10.96	\$0.44
Dare	\$12.05	\$0.48

\*Estimate based on assumption that average appliance weight is 80 pounds.

Counties with high per unit costs tend to have strong programs, cost allocation plans, the absence of a strong market or a combination of these factors. Counties with little or no costs to dispose discarded white goods tend to have minimal programs, poor record keeping, access to a strong market or a combination of these factors. In a few counties metals recyclers are willing to remove white goods from county collection sites at no cost and provide CFC recovery in order to have access to the scrap metal.



Examples of capital improvements needed for white goods management are concrete pads, elevated platforms and ramps, overhead shelters and storage sheds for CFC extraction equipment. Many counties have also found it necessary to purchase several roll-off containers for white goods management.

### **WHITE GOODS TONNAGE COLLECTED BY COUNTIES**

Counties reported receiving 55,342 tons of white goods during FY 2000-2001 (Appendix Table 2 at end of this report). Since white goods contain significant amounts of recyclable metals, they are included in overall scrap metal recycling programs. Exact tonnages were generally unavailable since most counties do not segregate white goods from other scrap metals.

The estimated tonnage of white goods managed has been reported by the counties since 1991 in annual county solid waste reports.

<b><u>Year(FY)</u></b>	<b><u>Tonnage</u></b>	<b><u>Estimated number of appliances*</u></b>	<b><u>Estimated number of appliances per capita</u></b>
1991-1992	25,749	644,000	0.10
1992-1993	28,769	719,000	0.11
1993-1994	34,126	853,000	0.12
1994-1995	41,296	1,032,000	0.15
1995-1996	37,095	927,000	0.13
1996-1997	46,358	1,159,000	0.16
1997-1998	39,849	996,000	0.13
1998-1999	47,992	1,200,000	0.16
1999-2000	47,755	1,193,000	0.16
2000-2001	55,342	1,383,550	0.17

\* Estimate based on the assumption that the average appliance weight is 80 pounds

Since white goods have value in the scrap metal market, a significant number of white goods are handled outside the county programs. Instead, retailers and individuals take them directly to metal dealers. Counties typically provide a collection site for white goods and other scrap metals at the county landfill transfer station. Metals are then transported to various processors for recycling.

Many counties accept white goods at convenience centers located throughout the county. These are usually hauled to the white goods collection center at the landfill or to a transfer station for processing and shipping to a metal recycling company.

### **WHITE GOODS MANAGEMENT ACCOUNT**

The White Goods Management Account was established to assist counties that incur costs exceeding their normal share of the advance disposal fee revenue. The account receives 20 percent of the revenue from the white goods advance disposal fee. It also receives funds that counties forfeit when their surplus exceeds the threshold amount.

Not all counties received adequate funding for the daily costs of their white goods management program. The most frequently cited reason was an extensive county collection program. Some counties with a low cost per ton incurred deficits due to high volume.

The account began FY 2000-2001 with \$4,173,533 and ended with \$1,937,731 as shown below:

**WHITE GOODS DISPOSAL ACCOUNT BALANCE**  
**FY 2000-2001**

Beginning Balance (July 1, 2000)	\$4,173,533
Funds Received during 2000-2001	\$2,230,094
Total Funds Available 2000-2001	\$6,403,627
Grants Awarded or Reserved 2000-2001	\$1,715,896
Transfer of Funds to State General Funds	\$2,750,000
Ending Balance (June 30, 2001)	\$1,937,731

**WHITE GOODS MANAGEMENT ACCOUNT GRANTS**

Grants totaling \$508,750.88 were distributed to 27 counties in April 2001 for losses incurred during July - December 2000. (Table 1 following this chapter) Grants totaling \$767,744.64 were distributed in October 2001 to 34 counties for losses incurred during January - June 2001. (Table 2 following this chapter) Capital improvement grants to eight counties that totaled \$439,401.83. This includes funds actually awarded and reserved. (Table 3 following this chapter)

Table 1

**Grant Requests & Awards from the White Goods Disposal Account for Losses Incurred  
July-December 2000**

<b>County</b>	<b>Advance Disposal Fee Proceeds Received For 6-Month Period</b>	<b>Grant Request For Cost Over-Run</b>	<b>Amount Of Grant Awards</b>
Ashe	\$5,043.39	\$10,513.92	\$10,513.92
Brunswick	\$14,641.74	\$19,823.08	\$19,823.08
Camden	\$1,420.05	\$1,803.00	\$1,802.95
Carteret	\$12,441.18	\$18,379.57	\$18,379.57
Chatham	\$9,946.22	\$26,440.05	\$26,440.05
Clay	\$1,770.22	\$802.78	\$802.78
Cleveland	\$19,484.59	\$95,003.73	\$95,003.73
Craven	\$18,882.73	\$57,716.27	\$57,716.31
Currituck	\$3,681.84	\$22,501.57	\$22,501.57
Duplin	\$9,364.97	\$35,430.28	\$35,430.28
Edgecombe	\$11,370.88	\$24,507.26	\$24,507.26
Graham	\$1,582.93	\$18,520.40	\$18,301.87
Hyde	\$650.36	\$4,069.21	\$4,069.21
Jackson	\$6,272.35	\$27,397.65	\$27,397.65
Lee	\$10,363.51	\$5,345.87	\$5,345.87
Lenoir	\$12,249.26	\$12,243.00	\$12,222.74
Macon	\$6,024.88	\$2,318.12	\$2,318.12
Madison	\$3,993.72	\$653.71	\$654.07
McDowell	\$8,553.11	\$3,115.14	\$3,114.86
Mitchell	\$1,702.67	\$21,141.76	\$21,141.76
Moore	\$15,216.45	\$8,933.76	\$8,933.76
Pender	\$8,201.03	\$37,342.97	\$37,342.97
Pitt	\$26,910.79	\$5,927.07	\$5,927.07
Rockingham	\$18,885.89	\$19,490.19	\$19,490.19
Rutherford	\$12,733.27	\$18,055.95	\$18,055.95
Washington	\$2,704.16	\$8,208.74	\$8,208.74
Yancey	\$3,544.02	\$3,304.55	\$3,304.55
<b>Total</b>	<b>\$247,636.21</b>	<b>\$508,989.60</b>	<b>\$508,750.88</b>

Table 2

**Grant Requests & Awards from the White Goods Disposal Account Losses Incurred**  
**January-June 2001**

County	Advance Disposal Fee Proceeds Received For 6 - Month Period	Grant Request For Cost Over-Run	Amount Of Grant Awards
Ashe	\$4,565.22	\$8,434.86	\$8,434.86
Brunswick	\$13,253.54	\$24,211.28	\$24,211.28
Camden	\$1,285.41	\$5,350.59	\$5,350.59
Chatham	\$9,003.21	\$51,719.53	\$51,719.53
Clay	\$1,602.39	\$2,000.16	\$2,000.16
Cleveland	\$17,637.23	\$105,335.34	\$105,335.34
Columbus	\$9,996.02	\$7,334.46	\$7,334.46
Craven	\$17,092.44	\$92,233.92	\$92,233.92
Currituck	\$3,332.76	\$31,905.75	\$31,905.75
Duplin	\$8,477.07	\$27,982.90	\$27,982.90
Edgecombe	\$10,292.80	\$8,997.01	\$8,997.01
Graham	\$1,432.85	\$16,363.15	\$16,363.15
Hyde	\$1,068.83	\$4,131.17	\$4,131.17
Jackson	\$5,677.66	\$29,242.34	\$29,242.34
Lenoir	\$11,087.89	\$32,565.11	\$32,565.11
Macon	\$5,453.66	\$13,971.78	\$13,971.78
Madison	\$3,615.07	\$991.47	\$991.47
McDowell	\$7,742.18	\$3,863.42	\$3,863.42
Mecklenburg	\$64,322.68	\$25,632.88	\$25,632.88
Mitchell	\$2,798.27	\$18,876.91	\$18,876.91
Moore	\$13,773.76	\$22,542.61	\$22,542.61
Northampton	\$3,990.52	\$22,434.48	\$22,434.48
Orange	\$10,991.38	\$63,274.33	\$63,274.33
Pamlico	\$2,400.53	\$7,714.67	\$7,714.67
Pender	\$7,423.49	\$46,036.51	\$46,036.51
Pitt	\$24,359.35	\$8,824.36	\$8,824.36
Randolph	\$12,650.91	\$9,803.75	\$9,803.75
Rockingham	\$17,095.30	\$7,810.32	\$7,810.32
Rutherford	\$11,526.02	\$12,780.50	\$12,780.50
Washington	\$2,447.77	\$9,940.93	\$9,940.93
Watauga	\$7,770.18	\$2,776.37	\$2,776.37
Wayne	\$21,516.32	\$29,337.49	\$29,337.49
Yadkin	\$6,881.17	\$1,369.23	\$1,369.23
Yancey	\$3,208.01	\$11,955.06	\$11,955.06
<b>Totals</b>	<b>\$345,771.89</b>	<b>\$767,744.64</b>	<b>\$767,744.64</b>

The White Goods Management Account can be used for grants to reimburse counties that incurred deficits the previous six months for necessary equipment purchases or site improvements. In FY 2000-2001, eight counties received grants under this program.

**Table 3**

**Grant Awards & Reserved Funds From the White Goods Disposal Account for  
Capital Improvements in FY 2000-2001**

<b>County</b>	<b>Grant Amount</b>	<b>Explanation</b>
Alleghany	\$2,663.46	Concrete pad, drill press, gravel
Bladen	\$108,201.00	14 containers, roll-off truck
Columbus	\$29,275.80	Skid-steer loader, roll-off truck, containers, (partial payment)
Graham	\$37,763.00	Knuckleboom loader
Lee	\$34,027.00	50% cost of rubber-tired loader
Macon	\$46,005.70	Concrete pad, ramp, retaining wall, building
Rockingham	\$113,625.37	Concrete pad, skid-steer loader, wheel loader
Wilson	\$67,850.50	Roll-off truck, 8 containers
<b>Total</b>	<b>\$439,401.83</b>	

## **Chapter 8**

### **DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES**

#### **SCRAP TIRE PROGRAM**

ANNUAL REPORT JANUARY 15, 2002

#### **SUMMARY**

This report describes the management of scrap tires in North Carolina during Fiscal Year 2000-2001. It is based on information provided in waste management annual reports from counties and permitted tire processing facilities.

- The 100 counties reported managing approximately 118,000 tons of scrap tires. Counties estimated that 82 percent of the tonnage was passenger tires and the remainder was much larger truck and off-road tires. This means that the estimated number of tires managed by the counties was about 9 million. (8.5 million car tires, 433,000 truck tires, and 32,000 off-road tires).
- About 44% of the scrap tires disposed in North Carolina were diverted from landfills for various uses in FY 2000-2001. This amount was higher than the recycling rate of 37% in FY 1999-2000, but lower than the highest rate of 54%, which occurred in in FY 1998-1999. Tires were primarily recycled as used tires or in civil engineering applications.
- The average cost for scrap tire management reported by the counties was \$74 per ton, which averages \$0.74 per passenger car tire and about \$3.70 per truck tire.
- Approximately \$1.5 million was paid from the Scrap Tire Disposal Account to county governments that incurred deficits in their tire programs.
- All high priority nuisance tire sites have been cleared. During the last seven years, about 7.1 million tires have been removed from nuisance tire sites. The remaining sites are under investigation or undergoing clean up.
- Illegal dumping of tires has been virtually eliminated by the availability of free disposal in all counties. There have been only a few reports of scrap tire dumping since free disposal was required by statute in 1994.
- Based on recent experience, about ten to fifteen nuisance tire sites are discovered each year. The Scrap Tire Disposal Account provides continued funding to clean up nuisance tire sites as they are discovered.

#### **RECOMMENDATION**

- The General Assembly should remove the June 30, 2002 sunset on the tire disposal fee to maintain the current program structure to:
- Provide free disposal of North Carolina tires
- Clean up nuisance tire sites
- Support tire recycling
- Provide technical assistance to counties

## INTRODUCTION

Scrap tires present unique disposal and environmental problems. Landfill disposal of whole scrap tires was banned in 1989 as part of the Scrap Tire Management Act. Whole tires cannot be landfilled satisfactorily because they use large amounts of space, cannot be compacted, and tend to "float" to the surface due to vibration and the presence of trapped gas.

Improper tire management poses serious threats to the public health and the environment. A number of illegal dumpsites were created prior to the 1989 ban. The Scrap Tire Disposal Act required all counties to provide at least one scrap tire collection site, ensuring a readily available site to properly dispose of scrap tires. An advance disposal fee was imposed on the sale of new tires. The proceeds are distributed to the counties to fund their tire management programs.

Illegal dumping of tires increased significantly in North Carolina after whole tires were banned from landfill disposal. This ban caused an increase in tire disposal costs due to the costs of tire shredding. The advance disposal fee did not fully cover the county costs of tire management and disposal. Counties passed the increased costs on to tire haulers and disposers as higher disposal fees, which created an economic incentive for illegal dumping of tires.

By 1992, it was apparent that there had been a large increase in illegal tire dumps. Data provided by the counties documented that there was a strong correlation between tire disposal fees, tire stockpiling and illegal dumping. Counties with higher fees report fewer tires disposed.

To address the problems associated with tipping fees and illegal dumping, major legislative changes were made in the scrap tire program in 1993. The scrap tire advance disposal fee on passenger tires was increased from 1 to 2 percent in October 1993. Landfill disposal fees were prohibited effective January 1, 1994. Also, the Scrap Tire Disposal Account was created to fund cleanup of illegal scrap tire sites and assist counties that incur tire program deficits.

The higher disposal fee, prohibition on county tire tipping fees, and Scrap Tire Disposal Account had been scheduled to expire in June 1997. However, legislation extended these parts of the program until June 30, 2002. Since the largest nuisance tire sites have been cleaned up and the newly found sites generally total less than 10,000 tires, additional funds were made available to reimburse counties that incur deficits. Additionally, the Scrap Tire Disposal Account was amended to provide grants to encourage tire recycling.

## PUBLIC HEALTH HAZARDS ASSOCIATED WITH TIRE DUMPS

The Asian Tiger Mosquito was introduced to North Carolina in illegal tire dumps. The rapid proliferation of illegal tire dumps is believed to have played a major role in the spread of the mosquito across North Carolina. The Asian Tiger Mosquito (*Aedes albopictus*) is an aggressive exotic species that competes with native North Carolina species. It is a container-breeder and thrives in tire dumps across the state.

N.C. State University conducted a study of mosquito species at illegal tire sites during 1993.<sup>5</sup> The mosquito was identified in 29 of 38 nuisance tire sites sampled. In some areas of North

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<sup>5</sup> 1994. *Survey of Mosquitoes and Mosquito-Transmitted Viruses Associated with Tire Disposal Sites in North Carolina*. NC State University, Department of Entomology.

Carolina, the mosquito is not just limited to tire sites, but is now permanently established and breeds in yards and woodlands. Its potential range includes even the cooler mountainous regions of North Carolina, which have traditionally escaped nuisance problems with aggressive mosquito species.

Not only is the Asian Tiger Mosquito a nuisance for outdoor activity, it is capable of carrying the eastern equine encephalitis virus.<sup>6</sup> This deadly disease is currently present in bird populations in eastern North Carolina and is transmitted among birds by mosquitoes. It is not known if the Asian Tiger Mosquito can transmit infectious doses of the EEE virus to humans. The Asian Tiger Mosquito is also capable of carrying West Nile Virus.

One death occurred due to mosquito-transmitted eastern equine encephalitis in 1996 in Harnett County. It is not known if the mosquitoes were Asian Tiger Mosquitoes or if they were breeding at a tire site.

## **FIRE HAZARDS**

Nuisance tire sites pose special fire risks because of the difficulty in cutting off the oxygen supply and extinguishing such fires. There is a substantial threat of tire fires at many sites, especially large ones. Tire fires produce hazardous air emissions and toxic liquid run-off. Recent EPA research on uncontrolled tire fires has identified cancer-causing agents in the smoke.

An EPA report<sup>7</sup> states that large amounts of harmful organic compounds may be released at tire fires:

"Considering (a) the relatively high mutagenic potency of the particulate organics, (b) the high mutagenic emission factors, and (c) the presence of many mutagens/carcinogens, especially PAH's, in the effluent from the open burning of tires, such burns pose *a genuine environmental and health hazard*. Because of the frequent occurrence of unwanted combustion at tire piles, and the potential environmental and health risks posed by such combustion, prudence would suggest that such piles be reduced or eliminated in size and number."

## **SCRAP TIRE GENERATION IN NORTH CAROLINA**

The standard used by the EPA for estimating the generation of scrap tires is one tire, per person, per year.<sup>8</sup> Since the 2000 population of North Carolina was about 8 million it is estimated that an equal number of tires were generated during FY 2000-2001. This includes passenger tires, truck tires and tires for special uses such as off-road equipment and tractors.

The counties reported volume of tires received as either tonnage or total number of tires. Tire tonnage can be converted to number of tires since the percentage of tire type (passenger, truck,

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<sup>6</sup>1992. *Isolation of Eastern Equine Encephalitis Virus From Aedes albopictus in Florida*. Science 257:526.

<sup>7</sup>*Mutagenicity of Emissions From the Simulated Open Burning of Scrap Rubber Tires*. July 1992. EPA Air and Energy Research Laboratory and Health Effects Research Laboratory, RTP, NC.

<sup>8</sup>*Markets for Scrap Tires*. 1991. US EPA, Solid Waste. EPA/530-SW-90-074A. Washington, DC.



off-road) was reported. A ton of tires can consist of 100 passenger tires, 20 truck tires, or 4 off-road tires.

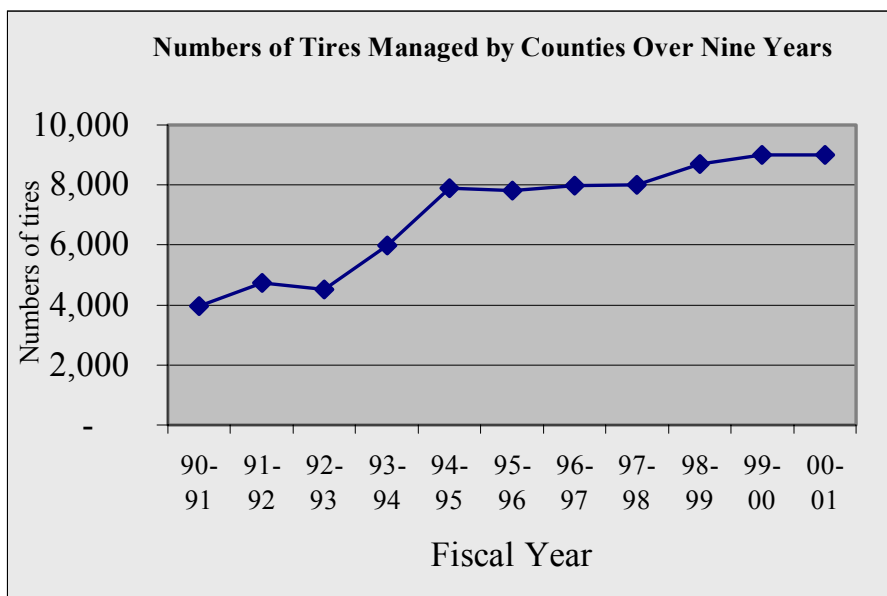
In FY 2000-2001, the counties disposed 9,007,000 tires. Of these, 8,542,000 were passenger tires, 433,000 were heavy truck tires, and 32,000 were off road tires. Comparing scrap tire generation to population gives a ratio of 1.1 scrap tires generated per person in North Carolina.

## VOLUME OF TIRES DISPOSED IN NORTH CAROLINA

All counties are required to provide scrap tire disposal facilities and to report on their scrap tire management programs. A summary of this data is presented in Table 1 (at the end of this chapter).

Approximately 127,000 tons of tires were disposed by North Carolina businesses and individuals in FY 2000-2001. These tires were managed by county disposal facilities and private recycling facilities as follows:

115,000 tons - Managed by counties and shipped to five recycling firms  
 3,000 tons - Managed by counties and shipped out-of-state  
9,000 tons - Tires taken directly to recycling firms (not managed by counties)  
**127,000 tons Total**



Counties report that they received approximately 118,000 tons of the total 127,000 tons from North Carolina disposers. About 115,000 tons were shipped to five private recycling facilities. The remaining 3,000 tons went to out-of-state recyclers.

Five private recycling facilities reported that in addition to receiving 115,000 tons from county tire programs, they received about 9,000 tons directly from disposers who did not participate in the county tire programs. These individuals may be involved in privately funded cleanups not on state records or tire dealers who did not participate in a county program.

North Carolina recycling firms also report receiving about 55,000 tons of tires from out-of-state disposers. The grand total of tires managed by North Carolina counties and recycling firms is 182,000.

The increase in the number of disposed tires during the past 10 years reflects the success of the tire program. Nearly all disposed tires are being handled at regulated disposal facilities. The program has been more firmly implemented as awareness of the regulations and cooperation of affected parties has increased.

Since free disposal was implemented in 1994, the illegal disposal of out-of-state tires at county collection sites has increased. The Solid Waste Section estimates that counties spend about \$600,000 per year to manage out-of-state tires that are inappropriately disposed as North Carolina tires.

This estimate is based on the cost of disposal in counties that receive volumes of tires greater than 120 percent of county population (1.2 tires per person). Some counties are regional retail centers or have other factors that would cause them to receive an excess volume of tires. However, tires in excess of 120 percent of expected volume are assumed to be out-of-state tires.

Haulers in Virginia have complained about competing with North Carolina haulers who transport tires from Virginia tire dealers to North Carolina county collection sites. Since the haulers fraudulently obtain free disposal, they can underbid Virginia tire haulers who must pay disposal costs at Virginia facilities.

Counties can avoid abuse by implementing policies such as:

- Improved screening of tire loads by requiring complete scrap tire certifications. These forms provide details on the origin of each load;
- Work with local tire dealers;
- Require proof of scrap tire origin to document information claimed on the scrap tire certifications;
- Develop an inventory of all scrap tire disposers using county services;
- Visit generators to discuss tire program requirements;
- Make spot checks of loads by calling to verify the origin and size of loads brought by haulers;
- Hold meetings with scrap tire disposers to discuss regulations and county requirements;
- Provide details on county tire disposal requirements through handouts.

The Solid Waste Section provides assistance to help counties avoid fraudulent disposal of out-of-state tires. **A county's effort to avoid abuse is a factor in eligibility for grants** from the Scrap Tire Disposal Account to cover cost over-runs.

Scrap tire management legislation passed in 1997, and was renewed in 1999 and 2001. It provides a time-limited position to assist counties in their effort to avoid providing free disposal for out-of-state tires. This position provides detailed assistance to counties. The assistance included training county personnel involved with scrap tire management and helping to inform scrap tire generators and haulers about program requirements. Additional duties include determining and helping implement recommendations to each county about changes in their scrap tire management program. The goal is to detect and deter out-of-state and other ineligible tires being presented for free disposal.

## TECHNICAL ASSISTANCE TO COUNTY SCRAP TIRE PROGRAMS

Legislation in 1997 created a time-limited technical assistance position in the Solid Waste Section. Legislation in 2001 extended the position until June 2003. The primary purpose of this position is to help local governments develop programs to prevent scrap tires outside the state from being presented for free disposal in North Carolina, to complete the clean up of nuisance tire collection sites, and to manage the processed tire material market development grants. Through the technical assistance offered by this position, counties can better identify and eliminate the source, and thus the management and disposal costs, of these excess tires.

Since the position began in February 1998, 55 counties have received assistance. Most of these counties have a history of a higher than expected volume of scrap tires and large cost deficits in their scrap tire programs. During the visits, procedures and policies of the scrap tire program in each county were reviewed. Suggested modifications to the programs included:

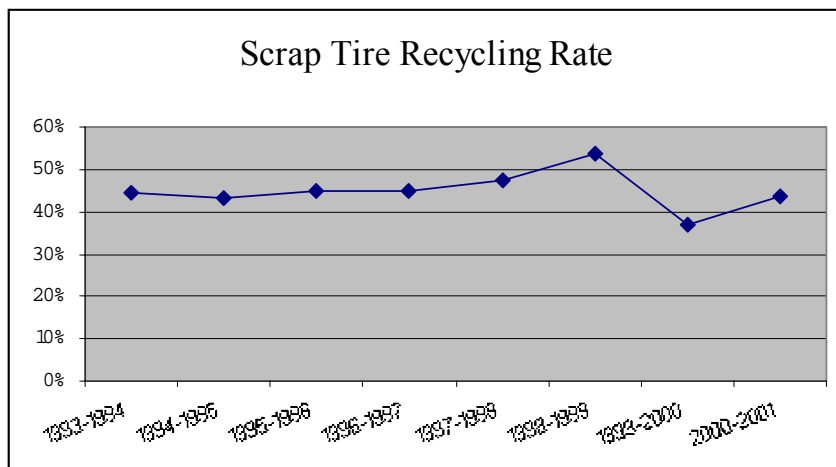
- Verification of eligibility of tires presented for free disposal;
- Detection and elimination of free disposal of out-of-state tires;
- Distribution of information to program participants;
- Revision of recordkeeping.

County visits often result in new procedures and requirements designed to eliminate free disposal of out of state tires and to improve the efficiency of county tire management programs. Identification and clean up of nuisance sites continues in an efficient and timely manner.

## TIRE RECYCLING

The tonnage of tires the private tire recycling facilities received from North Carolina counties and from clean up programs can be summarized as follows:

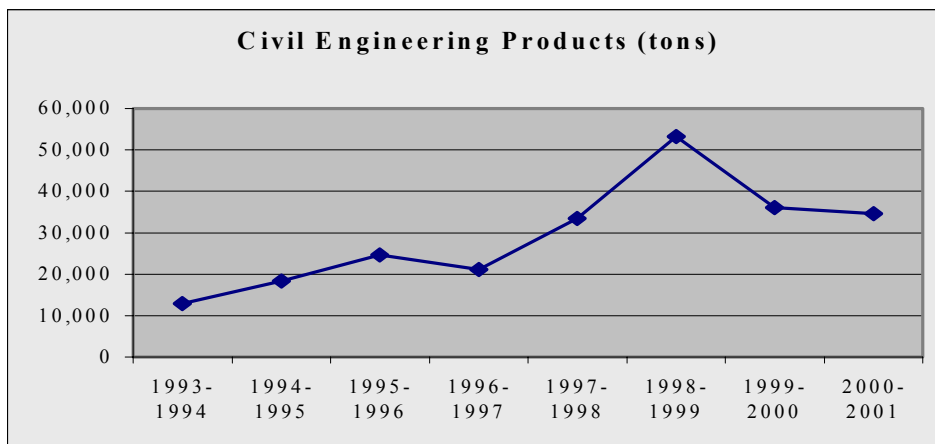
<u>Facility</u>	<u>Tires Received (tons)</u>
US Tire Recycling, LP (Cabarrus County)	45,092
Central Carolina Tire Recycling (Harnett County)	61,104
TIRES, Inc (Forsyth County)	9,187
Tire Disposal Service (Union County)	8,285
<b>Total</b>	<b>123,668</b>



North Carolina recycling firms diverted scrap tires from landfills. This was approximately 54,000 tons of scrap tires or about 44 percent of the total 123,668 tons of scrap tires handled. This compares with previous years as follows:

<b>Fiscal Year</b>	<b>Tonnage recycled</b>	<b>Percentage of total tonnage</b>
FY 1994-1995	42,000	37 %
FY 1995-1996	48,000	45 %
FY 1996-1997	47,000	45 %
FY 1997-1998	54,000	47 %
FY 1998-1999	67,000	54 %
FY 1999-2000	47,279	37 %
FY 2000-2001	54,000	44 %

Recycled tire materials are readily available in North Carolina. However, markets for these materials have not been strong and have improved only slightly the past few years.



There have been only modest increases in the recycling rates in the past three years. The largest increases have been for civil engineering applications, specifically for aggregate in septic tank drainfields in South Carolina.

In the past three years, US Tire recycled fewer North Carolina tires and preferentially recycled Virginia tires because of incentives funded by the state of Virginia. This indicates that improvements in tire recycling rates have been partially dependent on subsidies from state government.

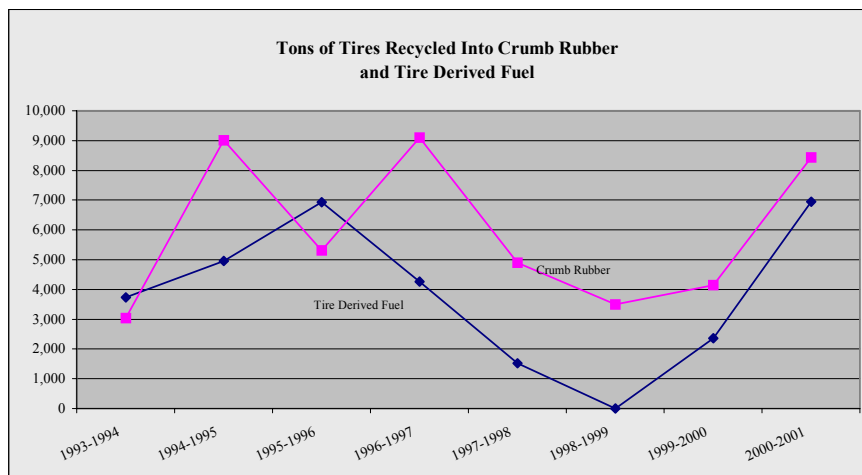
**Civil Engineering Applications-28 Percent of North Carolina Tires** TIRES, Inc., Tire Disposal Service, Central Carolina, and US Tire, LP shredded and sold 34,558 tons for civil engineering applications. This was primarily tire chips used as aggregate for construction of septic tank drainfields in South Carolina.

**Tire Reuse, Re-manufacturing, and Retreading-2 Percent of North Carolina Tires** An estimated 1,961 tons of scrap tires were diverted from landfills by North Carolina recycling firms for reuse, retreading or re-manufacturing. Many of these tires had high tread remaining and were sold on the used tire market. This figure does not include the large number of tires that were sold directly as used tires or casings, or were not discarded as scrap tires originally. Tire retreading is a large part of the North Carolina tire industry. Significant numbers of tires are imported into the state for retreading.

**Agricultural and Miscellaneous Products-2 Percent of North Carolina Tires** Central Carolina, Inc. sold about 1,932 tons for agricultural and other miscellaneous applications. This typically includes items like livestock bedding mats, doormats, solid rubber wheels, barricades and loading dock stops.

**Crumb Rubber-7 Percent of North Carolina Tires**

About 8,436 tires were processed into crumb rubber and related products by TIRES, Inc. in FY 2000-2001. According to North Carolina tire recyclers, supply of crumb rubber exceeds demand nationally. Crumb rubber 40-mesh may become a commodity and that has value as a substitute for plastics and other polymers in manufacturing products in the plastics industry.



**Tire Derived Fuel-6 Percent of North Carolina Tires** TIRES, Inc., Tire Disposal Service, Central Carolina, and US Tire, LP shredded and sold 6,944 tons of tire products for use as fuel.

**Landfill Disposal-56 Percent of North Carolina Tires** Approximately 70,000 tons were landfilled or stockpiled. US Tire, LP and Central Carolina, Inc. operate tire monofills. Both facilities shred tires prior to landfilling and can recover, or "mine", the landfilled tires for future recycling markets.

Tire monofills provide an essential service to the 100 counties by providing a low cost disposal option for tires that cannot be economically recycled. If landfilling of tires were banned, counties would incur significant cost increases. If counties were allowed to pass such costs on to tire haulers and disposers, it is assumed that tire dumping would again endanger the environment and public health.

**COUNTY COSTS OF TIRE DISPOSAL**

The counties report spending a total of \$8,855,278.27 for scrap tire disposal (Table 1 at end of this chapter). The reported costs for scrap tire disposal varied greatly and ranged from a low of \$45 to a high of \$279 per ton (Table 2 at end of this chapter). Some of the counties with unusually high per tire costs have included capital improvements and equipment purchases. Counties with unusually low costs may have stockpiled tires during the year rather than send them on for contract recycling and disposal.

Some of the fluctuation among counties is probably due to errors in recordkeeping and reporting by the counties. Also, some counties are inefficient in their management of tires. For example, counties that allow citizens to dispose of tires in "green boxes" incur subsequent labor costs for recovering the tires and loading into a trailer.

Tire disposal costs charged by recyclers are very competitive in North Carolina. Recyclers in North Carolina report that their contracts with counties typically charge \$60-\$70 per ton, which includes transportation and trailer rental costs. Counties that are not near recycling facilities may pay as much as \$70-\$90 per ton.

During the past five years, the reported costs per ton have fluctuated. The average reported costs were:

<u>Fiscal year</u>	<u>Average cost per ton</u>
1994-1995	\$72.00
1995-1996	\$81.00
1996-1997	\$90.00
1997-1998	\$77.00
1998-1999	\$77.00
2000-2001	\$74.00

The average tire disposal cost in FY 2000-2001 was \$74 per ton. The number of county programs totaled 95 since there are three regional programs, which include Carteret, Craven, and Pamlico (CRSWMA); Chowan, Perquimans, and Gates; Mitchell and Yancey Counties.

In FY 2000-2001, counties reported receiving tires in three size categories in the following percentages: 82 percent passenger car tires, 14 percent heavy truck tires, and 4 percent off-road tires (large tires from tractors and other large off-road equipment).

## **TIRE DISPOSAL TAX REVENUE DISTRIBUTION**

The state's two percent tire disposal tax revenue (initiated October 1993) was distributed to the counties on a per capita basis. This subsidized the counties for tire disposal costs, but did not cover total expenses in many counties. The counties received \$7,425,062, which was about 4 percent more than in the previous year.

<b>FISCALYEAR</b>	<b>DISTRIBUTION OF PROCEEDS OF DISPOSAL TAX TO THE 100 COUNTIES</b>
FY 1995-1996	\$5,818,752
FY 1996-1997	\$6,206,045
FY 1997-1998	\$6,433,923
FY 1998-1999	\$6,712,775
FY 1999-2000	\$7,097,852
FY 2000-2001	\$7,425,062

The total distributed to the counties represented 84 percent of the total reported disposal costs of \$8,792,863.31. (Table 3) This provided an average of 74 cents for each of the 10 million scrap tires handled by the counties.

On January 1, 1994, counties stopped charging tipping fees to dispose of tires certified as generated in North Carolina (G.S. 130A-309.58). However, counties may charge a fee for tires presented for disposal without an accompanying scrap tire certification form demonstrating the

tires were generated in North Carolina. The large increase in the volume of tires being managed is the reason that most counties reporting a deficit have insufficient funds.

### **SCRAP TIRE DISPOSAL ACCOUNT**

The General Assembly created the Scrap Tire Disposal Account effective October 1, 1993. It consists of 27 percent of the net tax proceeds of advance disposal fee. Up to 50 percent of the account can be used to fund grants to counties that incur losses in their tire management programs each six months (GS 130A-309.63). Forty percent can be used for grants to encourage market demand for processed tire material. The remainder may be used to clean up nuisance tire sites.

To help meet the state budget shortfall in FY 2000-2001 the state General Fund was credited \$750,000 from the Scrap Tire Disposal Account. During FY 2001-2002, all funds designated for the Scrap Tire Disposal Account will be diverted to General Fund revenue in accordance with Section 2.2(J) of Senate Bill 1005 (S.L. 2001-424).

The Solid Waste Section anticipates having adequate funds for scrap tire grants during FY 2001-2002. Reserve funds were accumulated in the account by taking cost-saving steps when cleaning up nuisance tire sites. These steps include working with the Department of Corrections to use inmate labor.

Grant requests and awards from the Scrap Tire Disposal Account for the two most recent six-month periods were as follows:

	<u><b>April-Sept 2000</b></u>	<u><b>Oct 2000-Mar 2001</b></u>
Number of applicants	53 counties	1 counties
Requested funds	\$ 898,907	\$ 730,709
<b>Total funds awarded</b>	<b>\$ 799,500</b>	<b>\$ 709,226</b>

The Scrap Tire Disposal Account legislation requires the Section to take into consideration the following when making grant awards: "...financial ability of a unit of local government to provide for scrap tire disposal, the severity of a unit of local government's scrap tire disposal problem, the effort made by a unit of local government to ensure that only tires generated in the normal course of business in this State are provided free disposal, and the effort made by a unit of local government to provide for scrap tire disposal within the resources available to it."

### **NUISANCE TIRE SITE CLEAN UPS**

The Nuisance Tire Site Clean up Program is funded from the Scrap Tire Disposal Account. Since the initial allocation of funds in 1994, approximately 6.9 million tires have been cleared from 315 individual filed sites and numerous small countywide clean up sites. Of the 315 filed sites, 162 were cleaned using funds from the Scrap Tire Disposal Account. The remainder were cleaned by the responsible person or landowner. The countywide clean up program, which began in November 1995, encourages counties to locate and clean up small nuisance tire sites. To date over 550,000 tires have been cleared from sites in 60 counties.

Thirty-one nuisance tires sites are known to exist in the state. Currently 23 are under clean up and 8 under investigation or enforcement action. A specific clean up plan is established for every known nuisance tire site. These plans are implemented as soon as possible to minimize the potential threat to human health and the environment.

#### **PROCESSED SCRAP TIRE MATERIAL MARKET DEVELOPMENT GRANTS**

Changes made to the Scrap Tire Management Act in 1997 allowed a tire recycling market development program to be created using funds from the Scrap Tire Disposal Account. The revision allowed the Department to use up to forty percent of the revenue to make grants that encourage the use of processed scrap tire materials.

The division has awarded grants to three North Carolina companies. The goal is to increase their use of North Carolina recycled processed scrap tire material. The grants enable these businesses to make equipment modifications and other changes as required to increase the use of processed scrap tire material in recycled tire products. Grant proposals are reviewed by an interagency task force representing the Division of Waste Management, the Division of Pollution Prevention and Environmental Assistance, and the Department of Commerce. The proposals are then evaluated by a technical review committee of experts for possible recommendation for a grant award.

Grants awarded are as follows:

Roll-Tech Inc., Hickory, North Carolina	\$212,420
Construction of additional molds to increase hard rubber tire manufacturing	
Jackson Paper, Jackson, North Carolina	\$377,000
Conversion of combustion units to enable the use of tire derived fuel (TDF).	
Continental General Tire Co., Charlotte, NC	\$1,140,006
Development of technology to increase recycled content in new tire manufacturing.	

A Request for Proposals was issued in May 2001 and applications are being reviewed for FY 2001-2002 grant awards.



**Table 1. County Reports of Tire Disposal Activities in FY 2000-2001**

<b>County</b>	<b>2% Tax Revenue</b>	<b>Tons</b>	<b>Total Costs</b>	<b>Net</b>	<b>Contractor</b>
Alamance	\$118,144.74	1,455	\$103,599.56	\$14,545.18	Central Carolina Tire
Alexander	\$30,983.20	344	\$35,853.48	(\$4,870.28)	US Tire Recycling
Alleghany	\$9,492.18	188	\$14,897.00	(\$5,404.82)	US Tire Recycling
Anson	\$22,710.25	776	\$22,853.34	(\$143.09)	Tire Disposal Service
Ashe	\$22,826.43	589	\$51,845.68	(\$29,019.25)	US Tire Recycling
Avery	\$15,205.34	222	\$18,174.85	(\$2,969.51)	US Tire Recycling
Beaufort	\$42,058.42	847	\$64,359.26	(\$22,300.84)	Central Carolina Tire
Bertie	\$18,887.07	225	\$16,000.00	\$2,887.07	Central Carolina Tire
Bladen	\$29,454.24	484	\$35,319.59	(\$5,865.35)	Central Carolina Tire
Brunswick	\$66,268.92	1,046	\$164,289.24	(\$98,020.32)	Central Carolina Tire
Buncombe	\$185,113.44	2,487	\$173,453.00	\$11,660.44	US Tire Recycling
Burke	\$80,561.99	1,291	\$90,827.17	(\$10,265.18)	US Tire Recycling
Cabarrus	\$119,105.62	1,852	\$100,901.89	\$18,203.73	US Tire Recycling
Caldwell	\$72,274.56	1,135	\$82,352.75	(\$10,078.19)	US Tire Recycling
Camden	\$6,427.10	44	\$12,198.11	(\$5,771.01)	Central Carolina Tire
Caswell	\$21,373.42	96	\$9,541.24	\$11,832.18	Central Carolina Tire
Catawba	\$127,751.74	1,685	\$109,541.76	\$18,209.98	US Tire Recycling
Chatham	\$45,017.28	780	\$65,476.00	(\$20,458.72)	Central Carolina Tire
Cherokee	\$21,974.90	290	\$29,222.00	(\$7,247.10)	US Tire Recycling
Clay	\$8,012.56	372	\$13,174.95	(\$5,162.39)	US Tire Recycling
Cleveland	\$88,188.64	1,344	\$131,038.76	(\$42,850.12)	US Tire Recycling
Columbus	\$49,981.30	1,017	\$74,713.20	(\$24,731.90)	Central Carolina Tire
Craven	\$85,464.66	1,913	\$171,319.80	(\$85,855.14)	Central Carolina Tire
Cumberland	\$278,019.87	2,712	\$292,775.00	(\$14,755.13)	Central Carolina Tire
Currituck	\$16,664.57	201	\$18,122.58	(\$1,458.01)	Waste Management
Dare	\$27,542.91	294	\$33,720.61	(\$6,177.70)	Central Carolina Tire
Davidson	\$135,937.47	1,689	\$99,511.41	\$36,426.06	US Tire Recycling
Davie	\$31,401.18	457	\$26,265.95	\$5,135.23	US Tire Recycling
Duplin	\$42,386.72	810	\$62,542.55	(\$20,155.83)	Central Carolina Tire
Durham	\$193,689.58	2,337	\$204,198.96	(\$10,509.38)	Central Carolina Tire
Edgecombe	\$51,464.70	573	\$46,075.00	\$5,389.70	Central Carolina Tire
Forsyth	\$277,971.29	5,349	\$406,070.83	(\$128,099.54)	Tire's Inc. & US Tire
Franklin	\$43,176.57	537	\$39,714.32	\$3,462.25	Central Carolina Tire
Gaston	\$172,740.01	1,816	\$152,348.00	\$20,392.01	US Tire Recycling
Graham	\$7,164.81	128	\$9,450.00	(\$2,285.19)	Carolina Tire (SC)
Granville	\$43,288.99	573	\$48,850.66	(\$5,561.67)	Central Carolina Tire
Greene	\$17,427.85	185	\$15,687.54	\$1,740.31	Central Carolina Tire
Guilford	\$374,719.12	7,853	\$502,639.04	(\$127,919.92)	Tires, Inc
Halifax	\$52,150.30	641	\$62,088.00	(\$9,937.70)	US Tire Recycling
Harnett	\$81,249.38	1,060	\$48,359.95	\$32,889.43	Central Carolina Tire
Haywood	\$49,618.84	922	\$88,925.85	(\$39,307.01)	Waste Recovery (Ga)
Henderson	\$66,114.06	1,067	\$129,678.00	(\$63,563.94)	US Tire Recycling
Hertford	\$17,089.95	407	\$40,073.09	(\$22,983.14)	Central Carolina Tire
Hoke	\$29,623.61	384	\$22,523.84	\$7,099.77	Central Carolina Tire
Hyde	\$5,343.81	68	\$14,450.53	(\$9,106.72)	GDS
Iredell	\$112,203.94	2,197	\$179,427.51	(\$67,223.57)	US Tire Recycling
Jackson	\$28,389.21	548	\$42,985.30	(\$14,596.09)	Jack Millsaps & Son
Johnston	\$106,821.86	1,479	\$107,155.38	(\$333.52)	Central Carolina Tire
Jones	\$8,862.40	172	\$11,952.88	(\$3,090.48)	Central Carolina Tire
Lee	\$46,905.57	630	\$33,812.44	\$13,093.13	Central Carolina Tire
Lenoir	\$55,440.61	894	\$55,427.38	\$13.23	Central Carolina Tire
Lincoln	\$57,223.42	1,118	\$84,475.00	(\$27,251.58)	US Tire Recycling
Macon	\$27,268.67	1,456	\$90,509.40	(\$63,240.73)	US Tire Recycling
Madison	\$18,075.89	256	\$21,576.00	(\$3,500.11)	US Tire Recycling
Martin	\$24,485.43	372	\$27,520.60	(\$3,035.17)	Central Carolina Tire
McDowell	\$38,711.60	544	\$48,053.00	(\$9,341.40)	US Tire Recycling
Mecklenburg	\$611,712.16	12,741	\$747,723.07	(\$136,010.91)	US Tire Recycling
Mitchell	\$13,991.33	310	\$31,345.85	(\$17,354.52)	US Tire Recycling

<b>County</b>	<b>2% Tax Revenue</b>	<b>Tons</b>	<b>Total Costs</b>	<b>Net</b>	<b>Contractor</b>
Montgomery	\$23,800.43	175	\$14,159.62	\$9,640.81	Central Carolina Tire
Moore	\$68,870.78	707	\$47,887.00	\$20,983.78	Central Carolina Tire
Nash	\$84,829.41	1,236	\$133,454.32	(\$48,624.91)	Central Carolina Tire
New Hanover	\$141,746.86	2,947	\$229,854.30	(\$88,107.44)	Central Carolina Tire
Northampton	\$19,952.80	301	\$13,556.70	\$6,396.10	Central Carolina Tire
Onslow	\$141,236.41	1,650	\$127,009.00	\$14,227.41	Central Carolina Tire
Orange	\$104,528.67	1,237	\$188,253.72	(\$83,725.05)	Central Carolina Tire
Pasquotank	\$33,003.23	635	\$61,400.80	(\$28,397.57)	Central Carolina Tire
Pe/Ch/Ga	\$33,357.08	522	\$44,370.00	(\$11,012.92)	Central Carolina Tire
Pender	\$36,917.81	600	\$55,054.80	(\$18,136.99)	Central Carolina Tire
Person	\$32,063.39	460	\$43,940.00	(\$11,876.61)	Central Carolina Tire
Pitt	\$121,799.23	2,085	\$159,644.80	(\$37,845.57)	Central Carolina Tire
Polk	\$16,120.69	735	\$14,507.00	\$1,613.69	US Tire Recycling
Randolph	\$120,311.36	2,839	\$225,782.42	(\$105,471.06)	Central Carolina Tire
Richmond	\$43,011.04	1,001	\$46,319.35	(\$3,308.31)	Central Carolina Tire
Robeson	\$109,849.70	780	\$92,800.00	\$17,049.70	Central Carolina Tire
Rockingham	\$85,478.13	1,379	\$77,964.23	\$7,513.90	Central Carolina Tire
Rowan	\$119,819.86	1,765	\$146,968.05	(\$27,148.19)	US Tire Recycling
Rutherford	\$57,631.40	1,161	\$89,858.55	(\$32,227.15)	US Tire Recycling
Sampson	\$51,580.26	582	\$48,939.61	\$2,640.65	Central Carolina Tire
Scotland	\$33,168.76	498	\$32,404.00	\$764.76	Central Carolina Tire
Stanly	\$53,415.44	838	\$78,035.96	(\$24,620.52)	US Tire Recycling
Stokes	\$41,622.49	451	\$31,488.60	\$10,133.89	Tires, Inc. & US Tire
Surry	\$65,570.14	1,289	\$90,029.73	(\$24,459.59)	Central Carolina Tire
Swain	\$11,725.34	123	\$9,700.00	\$2,025.34	US Tire Recycling
Transylvania	\$27,005.19	352	\$30,181.88	(\$3,176.69)	US Tire Recycling
Tyrrell	\$3,833.86	59	\$5,459.96	(\$1,626.10)	Central Carolina Tire
Union	\$109,860.39	1,570	\$91,275.12	\$18,585.27	US Tire Recycling
Vance	\$40,261.19	699	\$66,190.70	(\$25,929.51)	Central Carolina Tire
Wake	\$564,063.73	7,991	\$590,668.00	(\$26,604.27)	Central Carolina Tire
Warren	\$18,075.80	341	\$26,647.14	(\$8,571.34)	Central Carolina Tire
Washington	\$12,238.93	352	\$30,000.00	(\$17,761.07)	Central Carolina Tire
Watauga	\$38,852.27	650	\$57,682.53	(\$18,830.26)	US Tire Recycling
Wayne	\$107,583.76	1,937	\$109,210.00	(\$1,626.24)	Central Carolina Tire
Wilkes	\$60,729.23	1,045	\$94,045.37	(\$33,316.14)	US Tire Recycling
Wilson	\$66,455.16	2,655	\$155,519.80	(\$89,064.64)	Central Carolina Tire
Yadkin	\$34,406.93	432	\$28,803.99	\$5,602.94	US Tire Recycling
Yancey	\$16,040.00	284	\$29,223.07	(\$13,183.07)	US Tire Recycling
<b>Totals</b>	<b>\$7,202,972.83</b>	<b>117,623</b>	<b>\$8,855,278.27</b>	<b>(\$1,652,305.44)</b>	

**Table 2 Expenses Incurred by Counties for Tire Disposal in FY 2000-2001**

<b>County</b>	<b>Total Costs</b>	<b>Cost Per Ton</b>
Alamance	\$103,599.56	\$ 71.20
Alexander	\$35,853.48	\$104.28
Alleghany	\$14,897.00	\$ 79.42
Anson	\$22,853.34	\$ 29.44
Ashe	\$51,845.68	\$ 88.04
Avery	\$18,174.85	\$ 81.75
Beaufort	\$64,359.26	\$ 75.99
Bertie	\$16,000.00	\$ 70.96
Bladen	\$35,319.59	\$ 73.00
Brunswick	\$164,289.24	\$157.10
Buncombe	\$173,453.00	\$ 69.74
Burke	\$90,827.17	\$ 70.37
Cabarrus	\$100,901.89	\$ 54.49
Caldwell	\$82,352.75	\$ 72.54
Camden	\$12,198.11	\$279.26
Caswell	\$9,541.24	\$ 99.38
Catawba	\$109,541.76	\$ 65.03
Chatham	\$65,476.00	\$ 83.93
Cherokee	\$29,222.00	\$100.94
Clay	\$13,174.95	\$ 35.42
Cleveland	\$131,038.76	\$ 97.46
Columbus	\$74,713.20	\$ 73.48
Craven	\$171,319.80	\$ 89.56
Cumberland	\$292,775.00	\$107.98
Currituck	\$18,122.58	\$ 90.00
Dare	\$33,720.61	\$114.74
Davidson	\$99,511.41	\$ 58.92
Davie	\$26,265.95	\$ 57.50
Duplin	\$62,542.55	\$ 77.21
Durham	\$204,198.96	\$ 87.36
Edgecombe	\$46,075.00	\$ 80.40
Forsyth	\$406,070.83	\$ 75.92
Franklin	\$39,714.32	\$ 74.00
Gaston	\$152,348.00	\$ 83.89
Graham	\$9,450.00	\$ 73.83
Granville	\$48,850.66	\$ 85.22
Greene	\$15,687.54	\$ 84.73
Guilford	\$502,639.04	\$ 64.00
Halifax	\$62,088.00	\$ 96.94
Harnett	\$48,359.95	\$ 45.63
Haywood	\$88,925.85	\$ 96.42
Henderson	\$129,678.00	\$121.54
Hertford	\$40,073.09	\$ 98.54
Hoke	\$22,523.84	\$ 58.73
Hyde	\$14,450.53	\$212.04
Iredell	\$179,427.51	\$ 81.66
Jackson	\$42,985.30	\$ 78.39
Johnston	\$107,155.38	\$ 72.45
Jones	\$11,952.88	\$ 69.30
Lee	\$33,812.44	\$ 53.70
Lenoir	\$55,427.38	\$ 62.00
Lincoln	\$84,475.00	\$ 75.56
Macon	\$90,509.40	\$ 62.16
Madison	\$21,576.00	\$ 84.21
Martin	\$27,520.60	\$ 73.98
McDowell	\$48,053.00	\$ 88.41
Mecklenburg	\$747,723.07	\$ 58.69
Mitchell	\$31,345.85	\$101.12

<b>County</b>	<b>Total Costs</b>	<b>Cost Per Ton</b>
Montgomery	\$14,159.62	\$ 80.88
Moore	\$47,887.00	\$ 67.71
Nash	\$133,454.32	\$108.00
New Hanover	\$229,854.30	\$ 78.00
Northampton	\$13,556.70	\$ 44.99
Onslow	\$127,009.00	\$ 76.98
Orange	\$188,253.72	\$152.15
Pasquotank	\$61,400.80	\$ 96.63
Pe/Ch/Ga	\$44,370.00	\$ 85.00
Pender	\$55,054.80	\$ 91.76
Person	\$43,940.00	\$ 95.52
Pitt	\$159,644.80	\$ 76.59
Polk	\$14,507.00	\$ 19.74
Randolph	\$225,782.42	\$ 79.54
Richmond	\$46,319.35	\$ 46.27
Robeson	\$92,800.00	\$118.93
Rockingham	\$77,964.23	\$ 56.53
Rowan	\$146,968.05	\$ 83.25
Rutherford	\$89,858.55	\$ 77.40
Sampson	\$48,939.61	\$ 84.10
Scotland	\$32,404.00	\$ 65.07
Stanly	\$78,035.96	\$ 93.12
Stokes	\$31,488.60	\$ 69.81
Surry	\$90,029.73	\$ 69.85
Swain	\$9,700.00	\$ 78.94
Transylvania	\$30,181.88	\$ 85.74
Tyrrell	\$5,459.96	\$ 92.89
Union	\$91,275.12	\$ 58.16
Vance	\$66,190.70	\$ 94.70
Wake	\$590,668.00	\$ 73.91
Warren	\$26,647.14	\$ 78.08
Washington	\$30,000.00	\$ 85.29
Watauga	\$57,682.53	\$ 88.78
Wayne	\$109,210.00	\$ 56.39
Wilkes	\$94,045.37	\$ 89.96
Wilson	\$155,519.80	\$ 58.58
Yadkin	\$28,803.99	\$ 66.70
Yancey	\$29,223.07	\$102.79

## Chapter 9

### DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES

#### SCRAP TIRE DISPOSAL ACCOUNT ANNUAL REPORT JANUARY 15, 2002

This report is required by G.S. 130A-309.63(e) and includes information through June 30, 2001, as well as a summary of the entire program.

The Scrap Tire Disposal Account was created by the 1993 General Assembly and receives 27 percent of the revenues from the Scrap Tire Disposal Tax initiated on October 1, 1993. The 1997 Session extended the Scrap Tire Disposal Tax until June 30, 2002.

Beginning in October 1993, 25 percent of the STDA fund was allocated for cost overrun grants to counties and 75 percent was allocated for clean up of nuisance tire sites. Starting with the August 12, 1997 distribution, 50 percent of the fund is allocated for cost overrun grants, 10 percent for clean up of nuisance tire sites, and 40 percent for processed tire material market development grants.

Here are the fiscal year 2000-2001 balances.

Balance of funds as of July 1, 2000	\$5,240,045.26
Deposits received fiscal year 2000-2001	\$2,933,519.86
Total funds in account	\$8,173,565.12
Grants to county scrap tire programs	\$1,586,012.10
Nuisance Tire Site Clean up Program	\$ 394,066.00
Processed materials grants	\$ 316,719.33
Budget transfer to special reserve account	\$ 750,000.00
Balance of funds as of June 30, 2001	\$5,126,767.69

Total fund allocations, expenditures, and balances:

<b>Program Projects/ Contracts</b>	<b>Funds Collected To Date</b>	<b>Current Projects</b>	<b>Funds Expended</b>	<b>Balance</b>
County Cost Overruns	\$7,344,971.99	\$0.00	\$6,330,743.31	\$1,014,228.68
Tire Site Clean ups	\$7,186,385.40	\$162,737.16	\$6,186,096.17	\$837,552.07
Market Grants	\$4,314,311.01	\$745,504.72	\$1,031,406.28	\$2,537,400.01
<b>TOTALS</b>	<b>\$18,845,668.40</b>	<b>\$908,241.88</b>	<b>\$13,548,245.76</b>	<b>\$4,389,180.76</b>

## COUNTY COST OVERRUN GRANTS

Historically, the grant funds requested by counties have surpassed availability. This was due to an exceptionally large number of tires being received for disposal in the first few years of the free disposal program. Due to the continuation of the scrap tire disposal tax and the success of the nuisance tire site clean up program, more funds are available to allocate to the county grants program. The amounts requested and awarded are shown below.

Grant Period	4/95-9/95	10/95-3/96	4/96-9/96	10/96-3/97	4/97-9/97	10/97-3/98
Funds Available	\$312,238.63	\$268,386.26	\$314,640.07	\$301,497.02	\$655,226.57	\$976,245.51
Funds Awarded	\$312,238.63	\$268,386.26	\$314,640.07	\$301,497.02	\$592,165.00	\$602,778.28
Grant Requests	40	39	30	37	42	41
Funds Requested	\$664,521.28	\$483,922.00	\$509,885.25	\$395,822.44	\$665,177.91	\$677,682.00

Grant Period	4/98-9/98	10/98-3/99	4/99-9/99	10/99-3/00	4/00-9/00	10/00-3/01
Funds Available	\$687,847.37	\$633,761.66	\$699,950.87	\$663,467.43	\$751,295.88	\$700,221.11
Funds Awarded	\$644,334.67	\$583,093.00	\$666,042.36	\$786,511.24	\$799,500.85	\$709,226.95
Grant Requests	45	46	56	53	53	51
Funds Requested	\$761,308.00	\$781,603.00	\$816,004.63	\$842,931.37	\$898,907.67	\$730,709.37

Scrap tire legislation requires the division to consider county efforts to avoid free disposal of out-of-state tires when making decisions about grant awards. Grant applications for April 2001 to September 2001 will be accepted from November 15 to December 15. For additional information on the volume of scrap tires received, cost of management, out of state tires and other tire program issues, see the Scrap Tire Management Annual Report available by spring 2002.

## TIRE CLEAN UP PROGRAM

A total of 346 nuisance tire sites have been identified in North Carolina. Of these, 315 have been cleaned up and 23 sites are under clean up. Of the remaining eight sites, four are under enforcement action. Counties have been encouraged to locate and clean up all small tire sites through countywide clean up activities. These clean-ups are generally for sites with 3,000 tires or less.

	Number of Sites	Total Known Tires	Percent of Total Tires	Cleared Tires
Cleaned Up	315	6,146,063	87	6,146,063
Under Clean up	23	298,174	4	233,474
Countywide Clean ups	-----	556,070	8	556,070
Remaining Sites	8	22,600	1	None to date
<b>TOTAL</b>	<b>346</b>	<b>7,029,907</b>	<b>100</b>	<b>6,935,607</b>

The law requires the division to address nuisance tire sites that pose the greatest threat to public health and the environment first. Efforts and actions to clean up the top eight sites were developed and initiated as soon as funds were available. As clean up funds were received through quarterly distributions, additional priority sites were cleaned up.

The section developed a program to clean up small sites by working with county tire management programs that had already been established. It also coordinates with the N.C. Department of Corrections to provide prison inmate labor. Counties were notified when funds became available to clean up these small sites. As the tire clean up program progressed and more funds became available, counties were asked to locate small scrap tire sites for clean up. This countywide scrap tire clean up program has been well received and 59 counties now participate. Since this program started in November 1995, more than 556,000 nuisance tires have been cleared from 3,091 sites.

During FY 2000-2001, nuisance tire sites continued to be discovered. Collectively, they contain more than 35,000 tires; 29,000 tires have been cleared.

The section continues its commitment to the North Carolina Big Sweep program. Reimbursements go to any county that request funds to dispose of scrap tires collected during this statewide event.

Minimum-security inmates have been involved in removing more than 600,000 tires from nuisance sites. Counties utilizing inmate labor in tire clean ups include Anson, Ashe, Bladen, Buncombe, Burke, Camden, Chatham, Chowan, Columbus, Craven, Davidson, Halifax, Harnett, Iredell, Lee, Moore, New Hanover, Northampton, Onslow, Perquimans, Richmond, Robeson, Rockingham, Rutherford, Stokes, Surry, Washington and Yadkin.

Nuisance tire site clean ups are underway or scheduled in the following counties: Burke, Columbus, Davidson, Edgecombe, Franklin, Greene, Iredell, Johnston, Nash, Randolph, Robeson, Wake, Wayne, Wilkes and Yancey.

The section has established a specific clean up plan for every known nuisance tire site not currently being cleaned. As new sites are discovered, clean-up plans are established within 30 days. These plans are implemented as soon as possible to minimize the potential threat to human health and the environment.

### **COST RECOVERY ACTIONS**

There have been 162 nuisance tire sites cleaned up using STDA funds. Cost recovery efforts have collected \$251,557.68 from responsible parties at nine of these sites. At present, three sites are under cost recovery action. In addition, 148 nuisance tire sites have been cleaned up and closed with no cost recovery action. The majority of these are small sites where the expense of cost recovery would exceed the cost of the clean up.

### **PROCESSED SCRAP TIRE MATERIAL MARKET DEVELOPMENT GRANTS**

By implementing this grant program, the division's goal is to make scrap tire recycling sustainable in North Carolina. We can meet this goal by awarding grants to support market demand for processed scrap tire materials. We anticipate awarding grants for manufacturing rubber products such as mats, auto parts, gaskets, flooring material, tire derived fuel, new tire manufacturing and other applications. We issued a Request for Proposals in May 2001 and are reviewing the submissions for FY 2001-2002 grant awards.

The Processed Scrap Tire Material Market Development Grants program received its first funding allocation in August 1997. Here is a listing of the grants awarded to date:

<u>Continental General Tire Co. - Charlotte, NC</u>	\$1,140,000.00
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Develop “tire to tire” technology with 25% recycled content goal.

<u>Jackson Paper, Inc. - Sylva, NC</u>	\$377,000.00
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Modify boiler operation to use tire chips as fuel.

<u>Roll-Tech, Inc. - Hickory, NC</u>	\$212,420.00
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Construct additional molds to increase hard rubber tire manufacturing.



## Chapter 10

### DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES

#### DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE STATE AGENCY PURCHASES OF RECYCLED PRODUCTS ANNUAL REPORT

#### INTRODUCTION

State agencies are directed to use products containing recycled materials by state law and Executive Order No. 8, signed in 1993 and rewritten as No. 156 in 1999 in support of N.C. Project Green, the state environmental sustainability initiative.

Gov. Mike Easley and his administration exhibit continued support for Executive Order 156<sup>9</sup>, the purpose of which is to spur all state agencies to develop and implement environmentally sustainable policies and practices, including the procurement of products made wholly or in part from recycled materials.

“A serious commitment to environmental stewardship contributes affirmatively to the state's environmental quality, its economic stability, and its prosperity,” said Easley. “North Carolina government plays a key role in keeping air and water clean. We must make every effort to preserve abundant and sustainable energy supplies, forest products and food supplies. To maximize efficiency, state government must further expand its capacity to conserve natural resources.”

Many state agencies and local school districts are able to help reach these goals through thoughtful purchasing decisions and the use of recycled products. North Carolina state government has continued to make progress toward environmental sustainability by offering additional recycled and environmentally preferable products at affordable prices on state contract. For example, through a collaborative effort between the Department of Environment and Natural Resources, the Department of Administration, and the Department of Corrections, North Carolina is one of the first states in the nation to offer high quality re-refined motor oil on state contract at a price equal to or less than virgin oil. This use of re-refined oil is a classic case of supporting local recycling markets and local business (the contract is with Warren Oil based in Dunn), while supplying the state with an innovative and value-added product. Re-refined motor oil now joins more than 12 other categories of recycled products available on term contract.

This document summarizes the efforts of state agencies to purchase recycled products and fulfills the reporting mandate of N.C. General Statute 143-58.2(f) for Fiscal Year 2000-2001. It compiles purchasing reports required from 26 state government department and offices, 18 constituent institutions of the University of North Carolina, 58 community colleges, and 117 local public school administrative units. In Fiscal Year 2000-2001, purchasing reports were received from 84 percent of agencies, which is equal to the past fiscal year. All reporting was conducted online, saving paper and postage.

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<sup>9</sup> Full text of No. 156 is available online at: <http://www.p2pays.org/ref/03/02221.pdf>

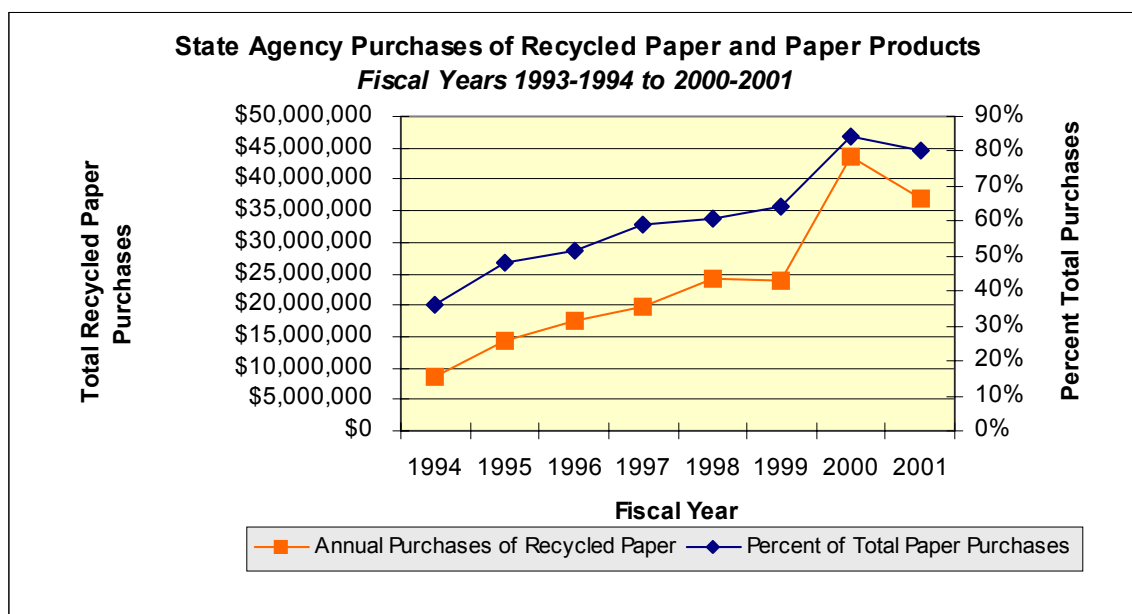
The Division of Pollution Prevention and Environmental Assistance (DPPEA) is the agency charged with compiling data from agency reports and publishing this summary. Copies of this and past reports may be obtained online at <http://www.p2pays.org/buyrecycled> or by calling (919) 715-6500 or (800) 763-0136.

## PURCHASES OF RECYCLED PRODUCTS

**Paper and Paper Products** Agency purchases of office paper and paper products in fiscal year 2001 totaled \$36,954,301 a 30 percent decrease in overall paper purchases from the prior fiscal year. This decrease may be a result of a number of issues, including but not limited to: general waste reduction, budget constraints and the use of electronic vs. printed means of communication. Recycled paper purchases were down 4 percent from the previous fiscal year and totaled \$29,566,015 or 80 percent of total paper purchases reported. This proportion fails to meet the goal set forth by Executive Order 156<sup>10</sup>: “State agencies shall attempt to meet the goal that, as of Fiscal Year 2000-2001, 100 percent of the total dollar value of expenditures for paper and paper products be toward purchases of paper and paper products with recycled content.”

While the state experienced an overall drop in the amount of recycled paper purchased, 28 agencies succeeded in reaching the 100 percent goal this fiscal year. Factors which may have contributed to a drop in overall recycled content paper purchases may include: budget constraints which led agencies to seek out the cheapest paper available even when it did not meet state regulations, a continued decrease in support from agency leadership, and possibly improved record keeping over previous years which in turn shows more realistic trends and totals.

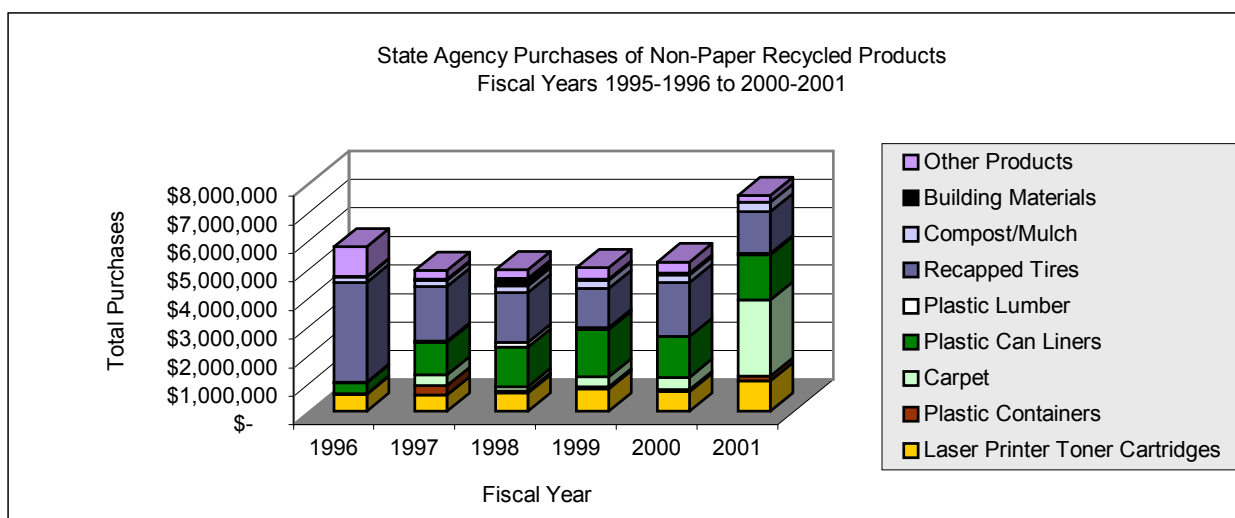
Office paper alone makes up \$20,575,566 of the \$36,954,301 spent on paper products throughout state agencies and local school districts. While overall there was a decrease in the amount of recycled content paper purchased, the proportion of recycled office paper purchases remained the same at 86 percent.



<sup>10</sup> G.S. 143-58.3 established a goal that at least 50 percent of all agency expenditures for paper and paper products be comprised of recycled product purchases. Executive Order No. 8 set a goal for agency expenditures of recycled paper and paper products of 65 percent in Fiscal Year 1998. Executive Order No. 156 reestablished the goal at 100 percent by 2001.

The above figure illustrates the four- percent drop in the purchases of recycled paper and paper products in comparison with last fiscal year. It also demonstrates the substantial drop in paper purchases during this fiscal year. This is the first large decline in overall paper purchases since reporting began in 1994.

**Non-Paper Products.** Agencies reported spending \$8,466,701 for non-paper recycled products in fiscal year 2000-2001, up 43 percent from the previous year's expenditures. These products include remanufactured laser toner cartridges, plastic can liners, recapped tires, plastic lumber, compost and mulch, re-refined motor oil, carpet and uniforms. Total agency purchases for recycled non-paper products, illustrated below, had remained relatively constant until this year. Carpet played a large role in this increase with agencies reporting spending over \$2 million on this product. This increase is due most likely to its inclusion on state contract for the first time this year. Toner cartridges also saw an increase, which can be attributed to increased performance and mandatory purchasing requirements through their inclusion on state contract.



**Administrative Support and Contract Services.** Many agencies again reported a lack of support from top management for recycled product procurement. Only 59 percent of responding agencies reported that their chief administrator had communicated the importance of buying recycled products, a slight decline from last year that saw 60 percent of administrators voicing support. Again this year just less than one half of reporting agencies stated that their agencies had established a lead coordinator for buying recycled. This key component to a successful recycled content procurement program should be examined as a way to increase participation.

In Fiscal Year 2000-2001, the percentage of agencies that reported specifying or encouraging the use of recycled materials or products in contracted services rose just 1 percent from last year. However, the proportion of agency expenditures for external print orders that specified recycled paper increased nine percent from Fiscal Year 1999-2000. This shows a marked increase in outside print orders that specify the use of recycled content paper. Overall agencies reported spending \$14,393,973 on outside print orders, which is almost equal to the amount spent last year.

## **BUY RECYCLED TECHNICAL ASSISTANCE**

To help spur interest in recycled products, DPPEA has worked on the following initiatives:

- In collaboration with the Division of Purchase and Contract, a part-time intern was hired in 1999 to research and recommend products to be added to state contract. To date this intern has helped to include the following recycled products on state term contract: carpet, uniforms, motor oil and higher percentage recycled content papers.
- A buy-recycled grant round was initiated in 1999-2000 to increase local government activity in purchasing recycled products. This grant offered up to \$5,000 towards the purchase of products containing recycled content and requires that grantees implement a buy-recycled policy. While this grant round was directed at local governments, it has yielded substantial information on the price, quality and availability of recycled products as well as sample policies and educational materials. The second grant round will begin early in 2002.
- DPPEA has updated and expanded buy-recycled resources available on the Internet. The new site can be viewed at <http://www.p2pays.org/buyrecycled> and includes product guides and resources, a dictionary of environmentally preferable procurement terms, and information on grant rounds, policy development and buying items off of state contract.
- DPPEA regularly communicates with purchasers via conferences, workshops and presentations. Currently an effort is underway to have a recycled content products vendor fair at the next meeting of the Carolina Association of Government Purchasers.

## **CONCLUSION**

Agencies as a whole are spending more on recycled-content paper and paper products than they did five years ago and are beginning to consider the use of alternative non-paper products as well. The inclusion of these products on state contract has helped to educate agencies about them and to ensure that they meet the same standards of price, quality and availability as virgin products. There has been some reluctance on the part of agencies to try new products, which has been addressed through continued education and assurance that recycled products meet the same stringent standards as their virgin equivalents.

While many agencies have yet to fully embrace Executive Order 156, several have taken it seriously and are beginning to make a real impact. In purchasing, universities led the way this year with 88 percent of procured paper products having recycled content. This is an interesting change, as universities were at the other end of the spectrum last fiscal year. Public schools and community colleges remained relatively stagnant, coming in with 85 percent and 87 percent respectively. State agencies saw the biggest decrease, falling from 92 percent last fiscal year to 69 percent in 2001. This may be due in some part to budget constraints as well as the use of office product contracts to purchase paper which do not ensure the use of recycled content products or adherence to state mandates.

Overall the state agencies are placing less of a focus on the purchase of recycled products. Education as well as administrative support is key to the continued success of buy recycled initiatives. The following recommendations may help to increase recycled content purchasing in the future and help to meet goals set forth both in Executive Order 156 and general statutes.

## **RECOMMENDATIONS**

**I. Establish and enforce an updated version of Executive Order 156 endorsed by the Governor's office.** While Executive Order 156 continues to carry weight with most state agencies, it is imperative that the new administration develop its own initiative related to state agency sustainability. A new and improved executive order would create additional support for and interest in recycled content purchasing and strengthen the ability for DPPEA to collect and manage data related to state agency purchases. Strong and active gubernatorial support can help the state successfully meet executive and legislatively mandated goals.

**II. Increase Administrative Support and Educational Programs.** This was also a recommendation last year and remains just as important this year. Disparity among agencies in the degree of support and routine communication received from top management may be the most significant barrier to increased agency participation in recycling and recycled product procurement. Administrative support is crucial also to the successful implementation of agency sustainability plans under N.C. Project Green that incorporate waste reduction, recycling and environmentally preferable procurement. For those agencies that have not yet prioritized waste reduction and buying recycled, it is recommended that they:

- Implement and adhere to the goals of Executive Order 156 and any subsequent Executive Order which states that all paper purchased in fiscal year 2000-2001 will have a minimum of 30 percent post-consumer content.
- Issue and enforce internal policies, official memoranda and formal declarations that demonstrate administrative leadership and support for buying recycled and Executive Order 156.
- Develop and implement ongoing outreach and education programs for employees and visitors.
- Join the WasteWise Program and N.C. Project Green, pledging to achieve its goals as part of their overall commitment to environmental sustainability.

**III. Increase Procurement of Non-Paper Recycled Products.** Outright expenditures for non-paper recycled products continue to lag behind those of paper purchases. Purchasing a diverse array of recycled-content products not only strengthens recycling markets in North Carolina, it also helps agencies fulfill their obligation to become more environmentally sustainable. Procurement of recycled products will increase only when top management commits itself to establishing policies and specifications that promote these purchases. To improve overall buy-recycled efforts, state agencies should:

- Expand the quantity and variety of non-paper recycled products purchased through agency convenience contracts and state term contracts.
- Enforce purchasing rules which mandate buying off of state term contract above in-house delegations.
- Establish or upgrade electronic tracking systems for all recycled product purchases.
- Specify or encourage the use of recycled materials and supplies by contracted services, especially in construction, housekeeping and printing.

**IV. Make Purchasing Decisions Based On Full Environmental Impact Versus One-Time Cost.** In order to determine the full environmental impact of a product or service, it is important

to look at the full life cycle analysis of a product. By doing so, state agencies can begin to make purchasing decisions that will be of benefit in both the short and long term.

- Begin looking at products in terms of broad environmental impacts including: durability, energy efficiency, performance, recycled content and recyclability, toxicity, biodegradability, location of manufacturer (local availability) and packaging.
- Develop guidelines and checklists for purchasing and contractual services that take into account environmental impact.
- Reassess accounting procedures so that agencies can receive credit for environmental purchasing.

## Chapter 11

### **SOLID WASTE MANAGEMENT TRUST FUND ANNUAL REPORT SEPTEMBER 1, 2001**

This report details for FY 01 (July 1, 2000 - June 30, 2001) the activities and expenditures of the Solid Waste Management Trust Fund. The Trust Fund is administered by the Division of Pollution Prevention and Environmental Assistance (DPPEA) in the Department of Environment and Natural Resources. The Trust Fund was created by the passage of the Solid Waste Management Act of 1989 (SB 111) and is funded by partial proceeds from a fee on the sale of new tires, a tax on virgin newsprint, and an advanced disposal fee on white goods (appliances). Additional revenues can come from appropriations and contributions.

The purpose of the Trust Fund is to provide funding for a range of solid waste management activities and to support achievement of the state's 40 percent waste reduction goal by 2001. Funding is intended for such activities as: technical assistance to local governments, businesses, and other entities on solid waste issues; solid waste educational activities; research and demonstration projects; and recycling market development activities (G.S. 130A- 309.12).

As noted in the table below, the Solid Waste Management Trust Fund received \$939,517 in revenues in FY 2000-2001. When added to the beginning balance on July 1, 2000 of \$1,546,452, a total of \$2,485,969 was managed in the Trust Fund for FY 2000-2001. Actual expenditures for FY 2000-2001 were \$1,033,768, leaving a fund balance at the end of FY 2000-2001 of \$1,452,201. A total of \$1,000,406 of that balance was encumbered for standing grant contracts that had not been completed and for which funding had not fully been disbursed (grant contracts are paid on a reimbursement basis). The unencumbered balance at the end of FY 2000-2001 was \$451,795.

Two late grant cycles in FY 2000-2001 resulted in additional encumbrances of \$220,700 in early FY 2001-2002. These expenditures were approved in FY 2000-2001, but the encumbrances did not take place until FY 2001-2002. Taking into account these early encumbrances, the Trust Fund entered FY 2001-2002 with \$231,095 in unencumbered funds (not counting any anticipated revenues for FY 2001-2002).

#### **Summary of Trust Fund Expenditures and Revenues FY 2000-2001**

	Total FY 01
Beginning Balance	\$ 1,546,452
+ Revenue	\$ 939,517
- Expenditures	\$ 1,033,768
Ending Balance	\$ 1,452,201
Encumbrances	\$ 1,000,406
"Uncommitted" funds as of 6/30/01	\$ 451,795

#### **Breakdown of Revenue Sources FY 2000-2001**

Revenue Source	Total FY 01
Tire Tax	\$ 537,599
White Goods ADF	\$ 342,157
Newsprint Tax	\$ 0
Appropriations	\$ 0
Contributions and Misc.	\$ 59,761
<b>Total Revenues</b>	<b>\$ 939,517</b>

## **TRUST FUND REVENUE SOURCES - FY 2000-2001**

Trust Fund revenues in FY 2000-2001, as indicated in the table above, came from three of the five possible revenue sources identified in the General Statutes. Activity from each revenue source is described below:

**2% Tire tax** Trust Fund revenues from the tax on the sale of new tires accounted for \$537,599 or just over 57 percent of total revenues during FY 2000-2001, up six percent from \$504,970 in FY 1999-2000.

**White Goods Tax** Proceeds from the advanced disposal fee (ADF) on white goods accounted for \$342,157, or just over 36 percent of total revenues for FY 2000-2001. White goods proceeds were 1 percent higher in FY 2000-2001 than in FY 1999-2000.

**Virgin Newsprint Tax** North Carolina newspaper publishers that fail to meet state-required purchasing goals for recycled content newsprint must pay a \$15.00 per ton tax on the virgin newsprint they consume. The law allows wide exemptions for companies who are unable to purchase recycled content newsprint due to availability or pricing constraints, or who are actively involved in the recovery of newspaper for recycling. During FY 2000-2001, no revenues were received from the virgin newsprint tax. In eight years, the annual revenue from the newsprint tax has never been higher than \$3,000.

**General Appropriations** When the Trust Fund was first established in 1989, a one-time appropriation of \$300,000 was allocated to provide an initial fund balance. Since that time, however, there have been no further appropriations to the Trust Fund.

**Contributions to the Trust Fund and Miscellaneous Revenues** The Division of Pollution Prevention and Environmental Assistance conducted a very successful recycling promotion campaign in FY 2000-2001 that entailed a cost-sharing partnership with local governments and private sector contributors. Local governments contributed \$45,500 toward the campaign and private sources provided \$12,000. The list of Recycle Guys partners is provided in Attachment B to this report. More information on the “Recycle Guys” educational campaign is provided below. Three other minor sources of revenue for the Trust Fund in FY 2000-2001 were \$375 in registration fees from a DPPEA paper recycling workshop, a \$300 sponsorship of that workshop by the American Forest and Paper Association, and a transfer of \$1,336 of unused funds back to the Trust Fund from a 1998 composting project at the North Carolina Zoo.

**A Note on Trust Fund Revenues** A major issue for the Solid Waste Management Trust Fund is the stability of its revenue sources. As detailed above, 93 percent of Trust Fund revenues come from two sources - statewide fees on the sale of tires and white goods. The Trust Fund receives 5 percent of the proceeds from the tire tax and 8 percent of the proceeds from the white goods ADF. In the 2000 session, the General Assembly removed the “sunset” on the white goods fee. As it stands, the tire legislation sunset scheduled for June 30, 2002 would reduce the fee from 2 percent to 1 percent on all tire sales but would double the amount of the fee coming to Trust Fund to 10 percent of proceeds. More detail on these two sources of Trust Fund revenue is provided in Attachment A to this report.



## **TRUST FUND EXPENDITURES - FY 2000-2001**

The array of items funded through the Trust Fund fall within four main categories: 1) grants, 2) educational and research projects, 3) miscellaneous projects and 4) staff support, including sponsorship of student interns each year.

A portion of the Trust Fund - \$75,629 - was used to help balance the FY 2000-2001 General State Budget. Because of this transfer of funds and the overall uncertainties of the budget situation, a few expenditures planned for FY 2000-2001, including one grant cycle, were not completed.

### **I. FY 2000-2001 GRANTS**

In determining how to make the most appropriate use of the Trust Fund, DPPEA depends on state-level data and an analysis of the key waste reduction factors in North Carolina. Some of the critical findings include:

- Three large components – organics, construction and demolition waste, and paper – dominate the state's disposed waste stream. Waste reduction programs and infrastructure development in these areas will be critical to meeting the state's waste reduction goal.
- Local government services remain the backbone of recycling efforts in the state, including over 500 curbside and drop-off recycling programs and a host of other waste reduction activities.
- There is a strong need for more widespread adoption of "best management practices" and other leadership activities to strengthen waste reduction efforts. Especially critical is recycled content purchasing to help improve recycling markets, and pay-as-you-throw programs to provide incentives for waste reduction practices.
- Attention must be paid to the top of the waste reduction hierarchy established by the General Assembly in 1989, with source reduction and reuse the most preferred methods of waste management.
- Education and promotion are paramount in encouraging public recycling participation, running efficient recycling programs, and recovering the maximum amount of recyclables possible.

The FY 2000-2001 Trust Fund grant cycles and other expenditures directly reflect these findings. The following text describes FY 2000-2001's grant making activities.

#### **2001 Solid Waste Reduction Assistance Grant Awards**

Since 1992, DPPEA has conducted the Solid Waste Reduction Assistance Grants Program to help meet the basic equipment and other needs of local governments and non-profit agencies. The size of the individual grant awards has typically been small (generally between \$4,000 and \$25,000 each), enabling a wide distribution of limited funds. To ensure full support of a grant by the administering agency and its decision-making body, a match is required of the grantee, usually in the range of 10 to 20 percent.

Solid Waste Reduction Assistance Grant cycles are highly competitive. To encourage objective selection of the best proposals, DPPEA convenes a panel of five award judges who make funding decisions using a blind-vote process under a pre-established set of criteria and points (this

procedure is used in all grant reviews by DPPEA). DPPEA often sets up the grant process to encourage specific activities, such as the implementation of source reduction and commercial/industrial waste reduction programs. All award recipients are screened to make sure they are in compliance with North Carolina solid waste laws and rules.

The 2001 Solid Waste Reduction Assistance Grant cycle was initiated by a Request for Proposals sent in December 2000 to over 425 local governments, Councils of Government, and not-for-profit organizations involved in waste reduction. The grant cycle included four categories of possible projects: 1) the promotion of backyard composting, 2) the building of “swap shops” at community convenience centers to encourage reuse of discarded items, 3) electronic waste collection programs, and 4) general waste reduction projects. DPPEA received 28 grant proposals requesting a total of \$282,322 in funding and completed its award process in May. Nineteen proposals were selected for funding for a total award amount of \$137,657. For more detail on specific recipients and their projects, please see Attachment C to this report.

### **2001 Organics Waste Reduction Assistance Grants**

In FY 01, DPPEA conducted the third annual grant cycle aimed at reducing organic solid wastes. Organics, in particular food wastes, represent 11 percent of all landfilled waste, making it one of the largest single waste streams. However, the waste reduction infrastructure for these materials in North Carolina is highly underdeveloped.

In October 2000, a Request for Proposals was sent to all interested parties, including local government agencies, and non-profit and for-profit organizations, soliciting project proposals for the reduction of organic wastes. DPPEA received 19 proposals requesting a total of \$364,813 in funding. Using a grant review process similar to the Solid Waste Reduction Assistance Grants, DPPEA made grant awards to seven recipients for a total award amount of \$126,387. One recipient eventually turned down a grant, leaving \$109,762 in awarded funds. The awarded projects are expected to permanently divert over 1,000 tons annually from landfills. For more detail on specific recipients, please see Attachment D to this report.

### **2001 Construction and Demolition Waste Grants**

As a result of North Carolina’s tremendous economic growth, construction and demolition (C&D) waste is by far the largest single waste stream in the state. In an effort to build up the C&D recycling infrastructure in North Carolina, DPPEA conducted its third C&D waste reduction grant round in the fall of 2000. Requests-for-proposals were sent out to prospective public and private sector recipients in September 2000. Eighteen proposals were submitted requesting a total of \$387,000 in funding. In December 2000, twelve proposals were selected for funding for a total award of \$130,000. The selected projects are expected to result in the permanent annual diversion of 40,000 tons or more of solid waste from North Carolina landfills. For more detail on specific recipients, please see Attachment E to this report.

### **2001 Paper Waste Reduction Grants**

Behind C&D wastes, paper is the next largest category of disposed wastes in North Carolina. To encourage greater diversion of this waste stream and to take advantage of existing market opportunities for various paper grades, DPPEA conducted a specific grant cycle in FY 2000-2001 for paper waste reduction. A request-for-proposal was sent out to public and private sector

entities statewide in January 2001, and resulted in the receipt of seventeen proposals requesting a total of \$191,183 in funding. In April 2001, nine projects were selected for a total of \$83,790 in funding. For more detail on specific recipients, please see Attachment F to this report.

### **2001 Buy Recycled Grants**

The widespread purchase of recycled products is critical to the strength of recycling markets and the overall success of recycling. DPPEA therefore planned to conduct a second buy-recycled grant cycle in FY 200-2001. However, transfer of funds from the Trust Fund to cover the general budget shortfall prevented DPPEA from going ahead with this grant cycle.

### **Pay-as you-throw Grants**

“Pay-as-you-throw” programs use financial incentives to encourage households and other waste generators to reduce, reuse, and recycle. In FY 1999-2000, DPPEA received a grant from EPA to encourage the adoption of pay-as-you-throw programs by North Carolina cities and counties. As part of this effort, DPPEA has offered \$10,000 pay-as-you-throw grants to local governments on a first-come, first-serve basis to help them plan and implement their programs. However, reflecting the complexity of implementing these systems and despite some level of interest, no communities came forward in FY 2000-2001 for pay-as-you-throw grants.

### **Needs not met**

Because of limited funding, many requests for grants from the Solid Waste Management Trust Fund are turned down. In addition, to stretch Trust Fund resources, DPPEA often works with recipients to reduce their requested award (without harming the project). Most grant amounts are also relatively small; hence, it becomes unfeasible to meet larger, more capital-intensive requests. Furthermore, with the competitive nature of a cycle such as the Solid Waste Reduction Assistance Grants, many local governments have grown discouraged in seeking grants from the Trust Fund – the number of grant applicants has declined from between 80 and 150 per year in the early 1990's to around 30 or so per year in the late 1990's and early 2000's.

The inability to meet all requests diminishes the Trust Fund's potential to build the state's waste reduction infrastructure. As one indicator of this “unmet” need, the Trust Fund's competitive grant opportunities in FY 2000-2001 resulted in 32 turned-down proposals and approximately \$764,856 in denied funding. In helping the state reach its 40 percent per capita waste reduction goal by 2001, the Trust Fund's lack of resources has been a limiting factor.

### **Grants from Previous Fiscal Years**

Grant awards made in past fiscal years from the Solid Waste Management Trust Fund have been specifically described in previous Annual Reports. DPPEA keeps extensive records on grant projects awarded to date and can provide information about previous grant cycles or about individual grants upon request.

## **II. EDUCATION, RESEARCH, AND SPECIAL PROJECTS**

In addition to waste reduction grants, the Trust Fund is used to fund education projects, training programs, research efforts, and the development of publications that can be distributed statewide. These special projects often allow for a wider impact than individual grants, which usually affect only a restricted area of the state. While some education and research projects are initiated by

DPPEA in response to a perceived need, many projects are proposed by outside parties. In the latter case, funding requests are reviewed and evaluated for consistency with overall state waste reduction goals and the demonstrated need for the proposed project. Below is a description of the educational and research projects funded through the Trust Fund during FY 2000-2001.



### **Recycle Guys (\$102,414)**

In FY 2000-2001, North Carolina implemented a highly successful recycling educational campaign originally developed by the State of South Carolina. The "Recycle Guys" campaign features cartoon characters representing different recyclable materials that appear in television and radio advertisements promoting recycling, source reduction, composting, and buying recycled products. DPPEA pursued this campaign to help reverse the decline in recycling participation across North Carolina (the state's recycling participation rate is estimated to be under 50 percent).

After kicking off the campaign in March 2000, DPPEA partnered with local governments and private donors in FY 2000-2001 to put three Recycle Guys television ads on to cable television (see list of project partners in Attachment B to this report). Cable was chosen because of the ability to target the message through specific channels that attract certain demographic profiles. The ideal profiles were developed by DPPEA and a focus group of local governments.

DPPEA entered into a contract with Time-Warner for a six month ad campaign in the three largest population areas of the state, reaching 1.2 million households (or almost 3 million North Carolinians). The contract arrangement with Time Warner ultimately delivered three times the value of the paid advertising for a campaign that lasted from October 2000 through March 2001.

In addition to the television advertising campaign, DPPEA also produced and distributed Activity books, stickers, Recycle Guys trading cards, and other materials to enhance the promotional message. DPPEA also built an extensive website around the Recycle Guys to provide public information on waste reduction and recycling. The website has specific pages for teachers and children.

There are many indications that the Recycle Guys campaign has begun to revitalize public awareness of recycling and waste reduction. Numerous anecdotes from local and state visits to schools, Scout troops, and other gatherings of children indicate a very high recognition of the characters and the messages. A DPPEA survey conducted through certified North Carolina environmental educators found the Recycle Guys image and message were identified by over 75% of schoolchildren. The Recycle Guys website is currently attracting over 500 visitors per month. As a further sign of success, local government partners have begun to integrate the Recycle Guys into their local educational efforts. One local government has seen an increase in recycling tonnages that it can contribute to no other factor than the Recycle Guys campaign.

These and many other inputs indicate that the Recycle Guys campaign has achieved its initial project goals of re-focusing public attention on the importance of recycling, reducing waste, and conserving resources. The follow-up campaign planned for FY 2001-2002 will reinforce the

original effort and expand the number and kind of messages as well as the geographical focus of the campaign.

#### **Composting in the Southeast Conference (\$3,550)**

As discussed above, organic wastes are of growing concern for North Carolina, and there is a general need to support the development of an organics waste reduction infrastructure to divert them from disposal. Composting, which is the chief reduction method for organics, entails numerous technical issues, from handling of food wastes to proper management of compost processes to selling the finished product. North Carolina has been a long-standing supporter of the bi-annual Composting in the Southeast conference, which brings together professionals from southern states and beyond to address technical questions. DPPEA supported the 2000 conference by publishing the conference proceedings on CD-ROM (i.e., paperless) and by providing some small scholarships to North Carolina attendees. The conference proceedings, with extensive technical information, are now also available on DPPEA's web-site.

#### **Compost Operators School (\$11,000)**

To support the growing number of public and private compost facilities, DPPEA partnered with the South Carolina Department of Health and Environmental Control (SC DHEC) and the Carolinas Composting Council (a council of the Carolina Recycling Association) to sponsor two compost operators training schools in FY 2000-2001 and FY 2001-2002. The first of the two 3-day events was held in the Charlotte area and featured on-site training at a compost facility plus classroom education on compost techniques and quality issues. Attendee response to the first course was overwhelmingly positive and the second course, to be held, in October 2001, was full already as of late August.

#### **Paper Workshop (\$1,614)**

With paper representing the second largest waste stream in North Carolina, and many opportunities to expand recovery, DPPEA held a paper recycling workshop in October 2000 to bring together local recycling programs, paper waste generators, and paper markets. The workshop featured overviews of paper grades and paper markets, examples of successful collection efforts, and information on purchasing recycled paper. Attendee reviews of the workshop were all very favorable.

#### **Scholarships for Technical Training (\$4,250)**

Two major conferences in FY 2000-2001 offered the opportunity to increase the professional skills of North Carolina recycling coordinators – the National Recycling Conference, held in Charlotte in September 2000, and the Carolina Recycling Association conference in Myrtle Beach in March 2001. DPPEA supported these events through scholarships to North Carolina attendees, exhibits, workshops, and sponsorship of technical tours.

#### **Buy Recycled training activities (\$955)**

DPPEA provided outreach and conducted technical assistance on buying recycled products at two major purchasing conferences in FY 2000-2001 - the Carolina Association of Governmental Purchasers and the National Association of Education Buyers. These workshops resulted in renewed interest in recycled products available on state term contract and a greater awareness

among professional governmental purchasers as to the quality and availability of recycled products.

#### **Recycling Works (\$2,650)**

Normally funded by DPPEA's general fund, three issues of Recycling Works, the newsletter on recycling markets from DPPEA's Recycling Business Assistance Center, were produced and distributed with Solid Waste Trust Fund revenues in FY 2000-2001.

#### **Previously funded Research and Education Projects**

As with the waste reduction grants, detailed information is kept by DPPEA on past education, research, and training projects funded by the Trust Fund, and is readily available upon request.

### **III. MISCELLANEOUS PROJECTS AND EXPENDITURES**

The following section lists a number of miscellaneous expenditures from the Solid Waste Management Trust Fund in FY 2000-2001.

#### **Waste Reduction Partners Program Support (\$15,000)**

The Waste Reduction Partners (WRP) is a highly successful program using retired engineers and business people to provide environmental technical assistance to companies and local governments in western NC. In response to a rising demand for services addressing solid waste, DPPEA provided \$15,000 to WRP in support of industrial solid waste audits and buy recycled efforts. With this funding, WRP helped western North Carolina businesses and other entities divert 21,199,900 pounds (10,599 tons) of solid waste from landfills for a total estimated \$371,000 savings in avoided disposal costs in FY 2000-2001.

#### **Junk Car Abatement Project (\$30,493)**

Local governments in the Albemarle region of North Carolina approached Senator Basnight's office in FY 2000-2001 for assistance in conducting a pilot junk car collection program. A grant contract was subsequently established with Albemarle Regional Health Services to conduct a one-time junk car abatement program, testing various public education and incentive programs, and removing as many junk cars as possible from Gates, Chowan, and Perquimans counties.

#### **Temporary Assistance (\$4,182)**

North Carolina statutes require solid waste management annual reports from all counties and municipalities, which in turn provides data for the NC Solid Waste Management Annual Report. In addition, NC Statutes require the keeping of a directory of recycling markets. DPPEA used temporary labor in FY 2000-2001 to manage the large set of data required for both of these tasks, as well as to increase the amount of technical assistance resources available to local governments and others on waste reduction.

### **IV. STAFF SUPPORT**

While the majority of Trust Fund expenditures are for grants or educational projects to support waste reduction efforts, a portion of the Trust Fund in FY 2000-2001 was used to support three staff positions in the Division of Pollution Prevention and Environmental Assistance and one position in the Division of Waste Management. During FY 2000-2001, a total of \$210,917 was

expended to pay for salaries, benefits and some limited operational support. These positions are described below:

**Recycling Market Development Specialist (DPPEA)** Established in May 1993, this was the state's first full-time position dedicated to providing marketing assistance to local governments and others involved in recyclable materials collection. Now a part of the Recycling Business Assistance Center in DPPEA, this person is responsible for strengthening recycling capacity for secondary materials collected throughout the state.

**Waste Management Analyst (DPPEA)** In addition to working with local recycling coordinators, this position is responsible for developing educational materials and programs on solid waste issues for audiences ranging from school children to adult populations. In particular, this position implements the multi-media statewide "Recycle Guys" campaign designed to boost recycling participation rates in North Carolina. It also conducts commercial waste reduction efforts.

**Waste Management Analyst (DPPEA).** This position is responsible for providing technical assistance to local governments on their waste reduction programs, including solid waste planning and full cost accounting (statutory requirements for local governments). The position also manages recycling program data from state-mandated local waste reduction reports, which in turn allows completion of the State Solid Waste Management Annual Report.

**Local Solid Waste Plan Analyst (DWM).** This position at the Division of Waste Management analyzes and monitors local government solid waste plans required by state statute, and manages data for calculating the state's progress toward its statutory waste reduction goal. The position is developing information to help prepare an update of the State Solid Waste Management Plan. This position will no longer be funded in FY 2001-2002.

### **Graduate Intern Program**

Through a contract with the Water Resources Research Institute (WRRI) of the University of North Carolina, DPPEA obtains the services of two to three student interns for a full year. The students work full time (40 hours/week) during the summer months and 12 hours per week during the academic year. Student projects in FY 2000-2001 included: 1) research on beverage container and electronics recovery issues, 2) research and support of organic waste diversion efforts, 3) research to support the Department of Administration's efforts to expand the number and kind of recycled products available to state agencies, and 4) assistance with the development of recycling markets and improvement of local programs. All of the interns who have gone through this program have secured positions in solid waste management or in another environmental fields. Expenditures for the intern contract for FY 2000-2001 were \$34,282.

### **PLANNED EXPENDITURES FOR FY 2001-2002**

Planned Trust Fund expenditures for FY 2001-2002 include continued funding the Solid Waste Reduction Assistance Grants program, and four other grant opportunities targeting organic wastes, construction and demolition debris, buy-recycled efforts, and paper recycling. In addition, the Trust Fund will be used for continue and expand statewide recycling education efforts with television and radio broadcasts of the "Recycle Guys." As in FY 2000-2001, this

project will involve partnerships with local government and the private sector. Trust Fund resources will be used as well to continue to address the problem of electronics discards. Finally, the Trust Fund will also be used to maintain the statewide initiative on pay-as-you-throw solid waste management systems and to support the Waste Reduction Partners program in western NC. Other research and grant needs may become apparent that warrant budgetary consideration from the Solid Waste Trust Fund in FY 2001-2002. It is projected that expenditures for FY 2001-2002 will roughly match expected revenues, with as many Trust Fund resources as possible judiciously committed to projects that will increase waste reduction in North Carolina.

All questions regarding the North Carolina Solid Waste Management Trust Fund may be directed to Scott Mouw, Chief, Community and Business Assistance Section, Division of Pollution Prevention and Environmental Assistance, at 715-6512.



## Appendix Table 1 - County White Goods Program Balances

<b><u>County</u></b>	<b><u>Beginning Balance Designated</u></b>	<b><u>Beginning Balance Undesignated</u></b>	<b><u>Reported Income</u></b>	<b><u>Total Costs</u></b>	<b><u>Ending Balance Designated</u></b>	<b><u>Ending Balance Undesignated</u></b>
Alamance	\$0.00	\$81,514.00	\$12,423.00	\$55,445.00	\$0.00	\$38,492.00
Alexander	\$0.00	\$43,738.00	\$0.00	\$10,440.00	\$0.00	\$33,298.00
Alleghany	\$2,772.00	(\$9,189.00)	\$19,654.00	\$15,149.00	\$0.00	(\$1,912.00)
Anson	\$0.00	(\$13,173.00)	\$4,542.00	\$0.00	\$0.00	(\$8,631.00)
Ashe	(\$5,779.00)	\$0.00	\$126,411.00	\$140,908.00	\$0.00	(\$20,276.00)
Avery	\$0.00	\$0.00	\$5,971.00	\$18,125.00	\$0.00	(\$12,154.00)
Beaufort	\$0.00	(\$194,367.00)	\$17,228.00	\$90,242.00	\$0.00	(\$267,381.00)
Bertie	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Bladen	\$0.00	\$855.00	\$12,398.00	\$9,600.00	\$0.00	\$3,653.00
Brunswick	\$0.00	(\$91,768.00)	\$76,688.00	\$71,930.00	\$0.00	(\$87,010.00)
Buncombe	(\$56,946.00)	\$0.00	\$77,921.00	\$0.00	\$20,975.00	\$0.00
Burke	\$7,072.00	\$0.00	\$38,513.00	\$40,428.00	\$0.00	\$5,157.00
Cabarrus	\$250,000.00	\$20,170.00	\$26,316.00	\$38,052.00	\$258,434.00	\$0.00
Caldwell	\$7,775.00	\$0.00	\$30,424.00	\$30,599.00	\$0.00	\$7,600.00
Camden	\$0.00	(\$24,227.00)	\$4,981.00	\$9,859.00	\$0.00	(\$29,105.00)
Carteret	\$0.00	\$3,274.00	\$42,273.00	\$39,876.00	\$0.00	\$5,671.00
Caswell	\$33,891.00	\$129.00	\$9,057.00	\$38,245.00	\$0.00	\$4,832.00
Catawba	\$121,421.00	(\$11,879.00)	\$28,945.00	\$91,422.00	\$65,000.00	(\$17,935.00)
Chatham	\$0.00	\$0.00	\$74,604.00	\$97,719.00	\$0.00	(\$23,115.00)
Cherokee	\$0.00	\$13,626.00	\$9,532.00	\$60,309.00	\$0.00	(\$37,151.00)
Clay	\$18,313.00	\$0.00	\$4,175.00	\$9,624.00	\$12,864.00	\$0.00
Cleveland	\$0.00	\$0.00	\$247,215.00	\$247,215.00	\$0.00	\$0.00
Columbus	\$0.00	(\$68,007.00)	\$174,566.00	\$193,394.00	\$0.00	(\$86,835.00)
Craven	\$0.00	(\$36,327.00)	\$155,878.00	\$185,925.00	\$0.00	(\$66,374.00)
Cumberland	\$0.00	\$437,386.00	\$13,599.00	\$267,739.00	\$0.00	\$183,246.00
Currituck	\$0.00	(\$4,909.00)	\$50,839.00	\$48,378.00	\$0.00	(\$2,448.00)
Dare	\$0.00	(\$23,323.00)	\$27,543.00	\$23,813.00	\$0.00	(\$19,593.00)
Davidson	\$80,666.00	\$6,549.00	\$69,833.00	\$81,573.00	\$75,475.00	\$0.00
Davie	\$0.00	\$46,526.00	\$1,078.00	\$34,964.00	\$0.00	\$12,640.00
Duplin	\$0.00	\$0.00	\$63,021.00	\$63,021.00	\$0.00	\$0.00
Durham	\$0.00	(\$154,872.00)	\$82,668.00	\$254,553.00	\$0.00	(\$326,757.00)
Edgecombe	\$0.00	(\$6,087.00)	\$52,496.00	\$61,493.00	\$0.00	(\$15,084.00)
Forsyth	\$0.00	\$960,271.00	\$36,636.00	\$55,982.00	\$0.00	\$940,925.00
Franklin	\$0.00	\$23,228.00	\$0.00	\$0.00	\$0.00	\$23,228.00
Gaston	\$0.00	\$14,692.00	\$37,180.00	\$192,514.00	\$0.00	(\$140,642.00)

<b><u>County</u></b>	<b><u>Beginning Balance Designated</u></b>	<b><u>Beginning Balance Undesignated</u></b>	<b><u>Reported Income</u></b>	<b><u>Total Costs</u></b>	<b><u>Ending Balance Designated</u></b>	<b><u>Ending Balance Undesignated</u></b>
Graham	(\$6,019.00)	(\$18,671.00)	\$59,097.00	\$59,066.00	\$0.00	(\$24,659.00)
Granville	\$58,000.00	\$41,481.00	\$0.00	\$73,419.00	\$26,062.00	\$0.00
Greene	\$0.00	\$598.00	\$7,802.00	\$7,835.00	\$0.00	\$565.00
Guilford	\$157,019.00	\$772,896.00	\$0.00	\$100,355.00	\$792,049.00	\$37,511.00
Halifax	\$118,400.00	\$52,136.00	\$32,280.00	\$64,855.00	\$137,961.00	\$0.00
Harnett	\$0.00	\$75,651.00	\$6,508.00	\$55,545.00	\$0.00	\$26,614.00
Haywood	\$34,658.00	\$0.00	\$20,887.00	\$11,719.00	\$43,826.00	\$0.00
Henderson	\$0.00	(\$56,078.00)	\$33,022.00	\$36,599.00	\$0.00	(\$59,655.00)
Hertford	\$0.00	\$14,566.00	\$0.00	\$0.00	\$0.00	\$14,566.00
Hoke	\$0.00	\$1,904.00	\$0.00	\$0.00	\$0.00	\$1,904.00
Hyde	\$0.00	(\$17,803.00)	\$16,046.00	\$10,450.00	\$0.00	(\$12,207.00)
Iredell	\$178,700.00	\$0.00	\$72,719.00	\$54,843.00	\$196,576.00	\$0.00
Jackson	\$0.00	(\$73,111.00)	\$39,348.00	\$0.00	\$0.00	(\$33,763.00)
Johnston	\$0.00	(\$39,145.00)	\$44,966.00	\$38,848.00	\$0.00	(\$33,027.00)
Jones	\$0.00	\$28,932.00	\$2,914.00	\$4,890.00	\$0.00	\$26,956.00
Lee	\$5,328.00	\$0.00	\$59,117.00	\$62,857.00	\$1,588.00	\$0.00
Lenoir	\$0.00	\$0.00	\$68,125.00	\$68,125.00	\$0.00	\$0.00
Lincoln	\$0.00	(\$13,002.00)	\$27,361.00	\$10,314.00	\$0.00	\$4,045.00
Macon	\$0.00	(\$4,978.00)	\$63,402.00	\$0.00	\$0.00	\$58,424.00
Madison	\$0.00	(\$895.00)	\$20,202.00	\$22,774.00	\$0.00	(\$3,467.00)
Martin	\$25,000.00	\$23,053.00	\$0.00	\$27,298.00	\$0.00	\$20,755.00
McDowell	\$0.00	(\$18,036.00)	\$24,120.00	\$25,207.00	\$0.00	(\$19,123.00)
Mecklenburg	\$0.00	\$441,946.00	\$110,293.00	\$244,384.00	\$0.00	\$307,855.00
Mitchell	\$0.00	(\$75,954.00)	\$39,363.00	\$50,174.00	\$0.00	(\$86,765.00)
Montgomery	\$0.00	\$0.00	\$10,065.00	\$10,065.00	\$0.00	\$0.00
Moore	\$0.00	(\$50,696.00)	\$56,545.00	\$62,076.00	\$0.00	(\$56,227.00)
Nash	\$0.00	\$158,160.00	\$37,181.00	\$55,120.00	\$140,221.00	\$0.00
New Hanover	\$233,066.00	\$0.00	\$42,417.00	\$262,289.00	\$13,194.00	\$0.00
Northampton	\$0.00	(\$30,066.00)	\$28,352.00	\$54,068.00	\$0.00	(\$55,782.00)
Onslow	\$333,186.00	\$70,318.00	\$31,205.00	\$225,272.00	\$64,312.00	\$145,125.00
Orange	\$0.00	\$39,950.00	\$10,030.00	\$146,666.00	\$0.00	(\$96,686.00)
Pamlico	\$0.00	(\$62,550.00)	\$5,052.00	\$10,115.00	\$0.00	(\$67,613.00)
Pasquotank	\$0.00	(\$10,425.00)	\$0.00	\$23,904.00	\$0.00	(\$34,329.00)
Pe/Ch/Ga*	\$93,709.00	\$0.00	\$14,176.00	\$73,817.00	\$34,068.00	\$0.00
Pender	\$0.00	(\$212,042.00)	\$99,861.00	\$99,004.00	\$0.00	(\$211,185.00)
Person	\$9,000.00	(\$1,815.00)	\$13,497.00	\$4,892.00	\$20,000.00	(\$4,210.00)
Pitt	\$0.00	(\$681.00)	\$59,840.00	\$59,080.00	\$0.00	\$79.00
Polk	\$0.00	\$44,124.00	\$152.00	\$0.00	\$0.00	\$44,276.00
Randolph	\$0.00	\$0.00	\$14,827.00	\$47,447.00	\$0.00	(\$32,620.00)

<u>County</u>	<u>Beginning Balance Designated</u>	<u>Beginning Balance Undesignated</u>	<u>Reported Income</u>	<u>Total Costs</u>	<u>Ending Balance Designated</u>	<u>Ending Balance Undesignated</u>
Richmond	\$0.00	\$53,104.00	\$0.00	\$6,903.00	\$0.00	\$46,201.00
Robeson	\$0.00	(\$6,968.00)	\$62,618.00	\$6,217.00	\$0.00	\$49,433.00
Rockingham	(\$4,190.00)	\$0.00	\$176,897.00	\$179,459.00	(\$6,752.00)	\$0.00
Rowan	\$0.00	\$404,764.00	\$219.00	\$19,586.00	\$0.00	\$385,397.00
Rutherford	\$0.00	(\$11,111.00)	\$32,867.00	\$65,004.00	\$0.00	(\$43,248.00)
Sampson	\$0.00	\$167,546.00	\$0.00	\$0.00	\$0.00	\$167,546.00
Scotland	\$0.00	\$32,304.00	\$11,874.00	\$33,850.00	\$0.00	\$10,328.00
Stanly	\$0.00	(\$30,781.00)	\$22,485.00	\$22,485.00	\$0.00	(\$30,781.00)
Stokes	\$0.00	(\$5,375.00)	\$18,928.00	\$14,865.00	\$0.00	(\$1,312.00)
Surry	\$0.00	(\$12,025.00)	\$52,274.00	\$30,786.00	\$0.00	\$9,463.00
Swain	\$0.00	\$0.00	\$5,084.00	\$5,084.00	\$0.00	\$0.00
Transylvania	(\$179,642.00)	\$0.00	\$5,401.00	\$61,858.00	\$0.00	(\$236,099.00)
Tyrrell	\$0.00	\$1,044.00	\$4,500.00	\$4,624.00	\$0.00	\$920.00
Union	\$0.00	\$101.00	\$21,972.00	\$41,692.00	\$0.00	(\$19,619.00)
Vance	\$0.00	(\$97,988.00)	\$17,205.00	\$30,367.00	\$0.00	(\$111,150.00)
Wake	\$0.00	\$878,968.00	\$0.00	\$0.00	\$0.00	\$878,968.00
Warren	\$0.00	\$19,008.00	\$7,100.00	\$15,731.00	\$0.00	\$10,377.00
Washington	\$0.00	(\$55,760.00)	\$21,020.00	\$34,617.00	\$0.00	(\$69,357.00)
Watauga	\$0.00	(\$6,801.00)	\$37,632.00	\$39,095.00	\$0.00	(\$8,264.00)
Wayne	\$0.00	(\$15,344.00)	\$47,594.00	\$63,404.00	\$0.00	(\$31,154.00)
Wilkes	\$0.00	\$172,437.00	\$0.00	\$67,654.00	\$0.00	\$104,783.00
Wilson	\$0.00	(\$210,176.00)	\$102,979.00	\$52,713.00	\$0.00	(\$159,910.00)
Yadkin	\$46,407.00	\$0.00	\$14,542.00	\$28,804.00	\$0.00	\$32,145.00
Yancey	\$0.00	(\$134,833.00)	\$11,018.00	\$26,277.00	\$0.00	(\$150,092.00)
<b>Totals</b>	<b>\$1,561,807.00</b>	<b>\$3,235,711.00</b>	<b>\$3,479,589.00</b>	<b>\$5,592,983.00</b>	<b>\$1,895,853.00</b>	<b>\$788,271.00</b>

\* Pe/Ch/Ga = Perquimans, Chowan, Gates regional management facility

## Appendix Table 2 - County White Goods Program Descriptions

<u>County</u>	<u>Tonnage</u>	<u>Operating Costs</u>	<u>Cost Per Ton</u>	<u>Costs for Capital Improvements</u>	<u>Costs for Cleanup</u>	<u>Contractor</u>
Alamance	1,138	\$55,445.00	\$48.72	\$0.00	\$0.00	D.H. Giffin Wrecking Co. Inc
Alexander	0	\$10,440.00	No data	\$0.00	\$0.00	State Line Scrap Metal
Alleghany	385	\$15,149.00	\$39.35	\$0.00	\$0.00	L. Gordon Iron & Metal
Anson	497	\$0.00	\$0.00	\$0.00	\$0.00	Dot's White Goods
Ashe	332	\$42,476.00	\$127.94	\$95,457.00	\$2,975.00	Elizabethton Iron & Metal
Avery	149	\$4,911.00	\$32.96	\$13,214.00	\$0.00	Johnson City Iron & Metal
Beaufort	875	\$90,242.00	\$103.13	\$0.00	\$0.00	GDS
Bertie	0	\$0.00	No data	\$0.00	\$0.00	Not reported
Bladen	212	\$9,600.00	\$45.28	\$0.00	\$0.00	State Line Scrap Metal
Brunswick	1,543	\$71,930.00	\$46.62	\$0.00	\$0.00	East Coast Mobile Recyclers
Buncombe	1,184	\$0.00	\$0.00	\$0.00	\$0.00	State Line Scrap Metal
Burke	1,342	\$39,390.00	\$29.35	\$1,038.00	\$0.00	Statesville Scrap Metal
Cabarrus	750	\$9,888.00	\$13.18	\$28,164.00	\$0.00	State Line Scrap Metal
Caldwell	0	\$30,599.00	No data	\$0.00	\$0.00	Foothills Environmental
Camden	0	\$9,859.00	No data	\$0.00	\$0.00	Not reported
Carteret	340	\$39,876.00	\$117.28	\$0.00	\$0.00	Waste Industries
Caswell	0	\$4,225.00	No data	\$34,020.00	\$0.00	Not reported
Catawba	772	\$64,338.00	\$83.34	\$27,084.00	\$0.00	Tri-State Scrap Metal
Chatham	799	\$76,243.00	\$95.42	\$21,476.00	\$0.00	State Line Scrap Metal
Cherokee	187	\$0.00	\$0.00	\$60,309.00	\$0.00	Kimsey Metals
Clay	100	\$9,624.00	\$96.24	\$0.00	\$0.00	Cleveland Wade
Cleveland	1,828	\$247,215.00	\$135.24	\$0.00	\$0.00	Carolina Recycling Group, Lyman, SC
Columbus	250	\$44,536.00	\$178.14	\$145,283.00	\$3,575.00	Waste Management
Craven	2,270	\$171,836.00	\$75.70	\$14,089.00	\$0.00	Andrea Dixon Trucking
Cumberland	875	\$267,739.00	\$305.99	\$0.00	\$0.00	U.S. Salvage
Currituck	387	\$48,378.00	\$125.01	\$0.00	\$0.00	East Coast Mobile Recyclers
Dare	1,977	\$23,813.00	\$12.05	\$0.00	\$0.00	United Salvage
Davidson	803	\$28,865.00	\$35.95	\$52,708.00	\$0.00	Pugh Auto, DH Griffin
Davie	0	\$34,964.00	No data	\$0.00	\$0.00	Not reported
Duplin	702	\$63,021.00	\$89.77	\$0.00	\$0.00	Meshaw Bros
Durham	977	\$159,218.00	\$162.97	\$95,335.00	\$0.00	Clayton Salvage
Edgecombe	1,127	\$52,943.00	\$46.98	\$8,550.00	\$0.00	United Salvage
Forsyth	2,832	\$55,982.00	\$19.77	\$0.00	\$0.00	Pugh Auto
Franklin	0	\$0.00	No data	\$0.00	\$0.00	Not reported
Gaston	417	\$169,209.00	\$405.78	\$17,607.00	\$5,698.00	Bruce's Iron & Metal; Webb Metals Ltd.

<u>County</u>	<u>Tonnage</u>	<u>Operating Costs</u>	<u>Cost Per Ton</u>	<u>Costs for Capital Improvements</u>	<u>Costs for Cleanup</u>	<u>Contractor</u>
Graham	162	\$21,330.00	\$131.67	\$37,736.00	\$0.00	Phillips Metal
Granville	574	\$28,419.00	\$49.51	\$45,000.00	\$0.00	United Salvage
Greene	0	\$7,835.00	No data	\$0.00	\$0.00	Not reported
Guilford	1,604	\$14,420.00	\$8.99	\$0.00	\$85,935.00	D.H. Giffin Wrecking Co. Inc
Halifax	0	\$5,167.00	No data	\$59,688.00	\$0.00	Not reported
Harnett	317	\$55,545.00	\$175.22	\$0.00	\$0.00	Not reported
Haywood	394	\$11,719.00	\$29.74	\$0.00	\$0.00	State Line Scrap Metal
Henderson	1,360	\$35,169.00	\$25.86	\$0.00	\$1,430.00	State Line Scrap Metal
Hertford	0	\$0.00	No data	\$0.00	\$0.00	Not reported
Hoke	0	\$0.00	No data	\$0.00	\$0.00	Not reported
Hyde	0	\$10,450.00	No data	\$0.00	\$0.00	GDS
Iredell	361	\$54,843.00	\$151.92	\$0.00	\$0.00	L. Gordon Iron & Metal
Jackson	1,378	\$0.00	\$0.00	\$0.00	\$0.00	Webster Enterprises
Johnston	514	\$38,848.00	\$75.58	\$0.00	\$0.00	Tart's Salvage
Jones	67	\$4,890.00	\$72.99	\$0.00	\$0.00	Andrea Dixon Trucking
Lee	638	\$23,502.00	\$36.84	\$39,355.00	\$0.00	State Line Scrap Metal
Lenoir	1,374	\$68,125.00	\$49.58	\$0.00	\$0.00	Harper Salvage
Lincoln	941	\$10,314.00	\$10.96	\$0.00	\$0.00	Tri-State Scrap Metal
Macon	0	\$0.00	No data	\$0.00	\$0.00	Not reported
Madison	0	\$17,194.00	No data	\$5,580.00	\$0.00	Morristown Shredder, TN
Martin	0	\$2,340.00	No data	\$24,958.00	\$0.00	Not reported
McDowell	966	\$25,207.00	\$26.09	\$0.00	\$0.00	Tri-State Scrap Metal
Mecklenburg	2,231	\$244,384.00	\$109.54	\$0.00	\$0.00	Southern Metals
Mitchell	422	\$34,244.00	\$81.15	\$15,930.00	\$0.00	Johnson City Iron & Metal
Montgomery	21	\$10,065.00	\$479.29	\$0.00	\$0.00	Uwharie Environmental, Inc
Moore	1,137	\$54,903.00	\$48.29	\$7,173.00	\$0.00	Sandhills Recycling Company
Nash	845	\$48,623.00	\$57.54	\$6,497.00	\$0.00	United Salvage
New Hanover	629	\$15,780.00	\$25.09	\$246,509.00	\$0.00	East Coast Mobile Recyclers
Northampton	305	\$54,068.00	\$177.27	\$0.00	\$0.00	Simsmetal America
Onslow	677	\$43,233.00	\$63.86	\$182,039.00	\$0.00	East Coast Mobile Recyclers
Orange	772	\$146,666.00	\$189.98	\$0.00	\$0.00	D.H. Giffin Wrecking Co. Inc
Pamlico	464	\$10,115.00	\$21.80	\$0.00	\$0.00	East Coast Mobile Recyclers
Pasquotank	392	\$23,904.00	\$60.98	\$0.00	\$0.00	East Coast Mobile Recyclers
Pe/Ch/Ga*	353	\$67,007.00	\$189.82	\$6,810.00	\$0.00	East Coast Mobile Recyclers
Pender	1,000	\$99,004.00	\$99.00	\$0.00	\$0.00	East Coast Mobile Recyclers
Person	234	\$2,117.00	\$9.05	\$0.00	\$2,775.00	Marvin Best - United Metal Recyclers
Pitt	0	\$59,080.00	No data	\$0.00	\$0.00	East Carolina Vocational Center
Polk	194	\$0.00	\$0.00	\$0.00	\$0.00	Tri-State Scrap Metal

<u>County</u>	<u>Tonnage</u>	<u>Operating Costs</u>	<u>Cost Per Ton</u>	<u>Costs for Capital Improvements</u>	<u>Costs for Cleanup</u>	<u>Contractor</u>
Randolph	892	\$47,447.00	\$53.19	\$0.00	\$0.00	State Line Scrap Metal
Richmond	121	\$6,903.00	\$57.05	\$0.00	\$0.00	State Line Scrap Metal
Robeson	0	\$6,217.00	No data	\$0.00	\$0.00	Not reported
Rockingham	1,224	\$64,666.00	\$52.83	\$114,793.00	\$0.00	D.H. Giffin Wrecking Co. Inc
Rowan	147	\$19,586.00	\$133.24	\$0.00	\$0.00	Steel Trader, C&D Salvage
Rutherford	530	\$51,708.00	\$97.56	\$13,296.00	\$0.00	Tri-State Scrap Metal
Sampson	53	\$0.00	\$0.00	\$0.00	\$0.00	Waste Industries
Scotland	190	\$33,850.00	\$178.16	\$0.00	\$0.00	Lockamy Scrap Metal
Stanly	1,214	\$22,485.00	\$18.52	\$0.00	\$0.00	State Line Scrap Metal
Stokes	257	\$14,865.00	\$57.84	\$0.00	\$0.00	Brenner Iron
Surry	527	\$1,228.00	\$2.33	\$29,558.00	\$0.00	Steel Traders & Pugh Auto
Swain	499	\$5,084.00	\$10.19	\$0.00	\$0.00	Phillips Metal
Transylvania	464	\$5,720.00	\$12.33	\$56,138.00	\$0.00	State Line Scrap Metal
Tyrrell	23	\$4,624.00	\$201.04	\$0.00	\$0.00	GDS
Union	1,644	\$41,692.00	\$25.36	\$0.00	\$0.00	State Line Scrap Metal
Vance	250	\$30,367.00	\$121.47	\$0.00	\$0.00	Greg Driver
Wake	0	\$0.00	No data	\$0.00	\$0.00	T T & E
Warren	208	\$15,731.00	\$75.63	\$0.00	\$0.00	East Coast Mobile Recyclers
Washington	498	\$34,617.00	\$69.51	\$0.00	\$0.00	East Coast Mobile Recyclers
Watauga	435	\$39,095.00	\$89.87	\$0.00	\$0.00	Johnson City Iron & Metal
Wayne	0	\$23,575.00	No data	\$39,829.00	\$0.00	Not reported
Wilkes	0	\$1,237.00	No data	\$61,719.00	\$4,698.00	State Line Scrap Metal
Wilson	368	\$52,713.00	\$143.24	\$0.00	\$0.00	Harper Auto Crushers
Yadkin	0	\$28,804.00	No data	\$0.00	\$0.00	Not reported
Yancey	422	\$26,277.00	\$62.27	\$0.00	\$0.00	Johnson City Iron & Metal
<b>Totals</b>	<b>55,342</b>	<b>\$3,878,955.00</b>		<b>\$1,606,942.00</b>	<b>\$107,086.00</b>	

\*Pe/Ch/Ga = Perquimans, Chowan, Gates regional management facility

### Appendix Table 3 - Allocation of Disposal Fee Proceeds to Counties

<u>County</u>	<u>Allocation</u>	<u>Disposal Tax Ending Balance</u>	<u>Undesignated Threshold</u>
Alamance	\$49,731.78	\$38,492.00	77%
Alexander	\$13,042.16	\$33,298.00	255%
Alleghany	\$3,995.66	(\$1,912.00)	0%
Anson	\$9,559.71	(\$8,631.00)	0%
Ashe	\$9,608.61	(\$20,276.00)	0%
Avery	\$6,400.40	(\$12,154.00)	0%
Beaufort	\$17,704.12	(\$267,381.00)	0%
Bertie	\$7,950.38	\$0.00	0%
Bladen	\$12,398.25	\$3,653.00	29%
Brunswick	\$27,895.28	(\$87,010.00)	0%
Buncombe	\$77,921.35	\$0.00	0%
Burke	\$33,911.60	\$5,157.00	15%
Cabarrus	\$50,136.31	\$0.00	0%
Caldwell	\$30,423.14	\$7,600.00	25%
Camden	\$2,705.46	(\$29,105.00)	0%
Carteret	\$23,702.80	\$5,671.00	24%
Caswell	\$8,996.81	\$4,832.00	54%
Catawba	\$53,775.52	(\$17,935.00)	0%
Chatham	\$18,949.43	(\$23,115.00)	0%
Cherokee	\$9,250.19	(\$37,151.00)	0%
Clay	\$3,372.61	\$0.00	0%
Cleveland	\$37,121.82	\$0.00	0%
Columbus	\$21,039.04	(\$86,835.00)	0%
Craven	\$35,975.17	(\$66,374.00)	0%
Cumberland	\$117,029.45	\$183,246.00	157%
Currituck	\$7,014.60	(\$2,448.00)	0%
Dare	\$11,594.02	(\$19,593.00)	0%
Davidson	\$57,221.11	\$0.00	0%
Davie	\$13,217.77	\$12,640.00	96%
Duplin	\$17,842.04	\$0.00	0%
Durham	\$81,531.32	(\$326,757.00)	0%
Edgecombe	\$21,663.68	(\$15,084.00)	0%
Forsyth	\$117,008.93	\$940,925.00	804%

<b><u>County</u></b>	<b><u>Disposal Tax Allocation</u></b>	<b><u>Undesignated Ending Balance</u></b>	<b><u>Threshold</u></b>
Franklin	\$18,174.83	\$23,228.00	128%
Gaston	\$72,712.90	(\$140,642.00)	0%
Graham	\$3,015.78	(\$24,659.00)	0%
Granville	\$18,222.12	\$0.00	0%
Greene	\$7,336.16	\$565.00	8%
Guilford	\$157,733.87	\$37,511.00	24%
Halifax	\$21,951.55	\$0.00	0%
Harnett	\$34,201.07	\$26,614.00	78%
Haywood	\$20,886.68	\$0.00	0%
Henderson	\$33,022.34	(\$59,655.00)	0%
Hertford	\$8,523.70	\$14,566.00	171%
Hoke	\$12,469.64	\$1,904.00	15%
Hyde	\$2,249.62	(\$12,207.00)	0%
Iredell	\$47,230.80	\$0.00	0%
Jackson	\$11,950.01	(\$33,763.00)	0%
Johnston	\$44,965.54	(\$33,027.00)	0%
Jones	\$3,730.62	\$26,956.00	723%
Lee	\$19,744.45	\$0.00	0%
Lenoir	\$23,337.15	\$0.00	0%
Lincoln	\$24,087.70	\$4,045.00	17%
Macon	\$11,478.54	\$58,424.00	509%
Madison	\$7,608.79	(\$3,467.00)	0%
Martin	\$10,307.03	\$20,755.00	201%
McDowell	\$16,295.29	(\$19,123.00)	0%
Mecklenburg	\$257,493.31	\$307,855.00	120%
Mitchell	\$5,889.63	(\$86,765.00)	0%
Montgomery	\$10,018.37	\$0.00	0%
Moore	\$28,990.21	(\$56,227.00)	0%
Nash	\$35,708.16	\$0.00	0%
New Hanover	\$59,666.76	\$0.00	0%
Northampton	\$8,399.01	(\$55,782.00)	0%
Onslow	\$59,451.86	\$145,125.00	244%
Orange	\$44,000.12	(\$96,686.00)	0%
Pamlico	\$5,052.49	(\$67,613.00)	0%
Pasquotank	\$13,892.13	(\$34,329.00)	0%
Pe/Ch/Ga**	\$10,877.55	\$0.00	0%
Pender	\$15,624.52	(\$211,185.00)	0%
Person	\$13,496.80	(\$4,210.00)	0%
Pitt	\$51,270.14	\$79.00	0%



<b><u>County</u></b>	<b><u>Allocation</u></b>	<b><u>Disposal Tax Ending Balance</u></b>	<b><u>Undesignated Threshold</u></b>
Polk	\$6,839.71	\$44,276.00	647%
Randolph	\$50,643.50	(\$32,620.00)	0%
Richmond	\$18,105.07	\$46,201.00	255%
Robeson	\$43,821.20	\$49,433.00	113%
Rockingham	\$35,981.19	\$0.00	0%
Rowan	\$50,436.60	\$385,397.00	764%
Rutherford	\$24,259.29	(\$43,248.00)	0%
Sampson	\$21,712.20	\$167,546.00	772%
Scotland	\$13,961.88	\$10,328.00	74%
Stanly	\$22,484.77	(\$30,781.00)	0%
Stokes	\$17,520.51	(\$1,312.00)	0%
Surry	\$27,601.00	\$9,463.00	34%
Swain	\$4,935.80	\$0.00	0%
Transylvania	\$11,367.50	(\$236,099.00)	0%
Tyrrell	\$1,613.75	\$920.00	57%
Union	\$46,244.51	(\$19,619.00)	0%
Vance	\$16,947.60	(\$111,150.00)	0%
Wake	\$237,436.07	\$878,968.00	370%
Warren	\$7,608.79	\$10,377.00	136%
Washington	\$5,151.93	(\$69,357.00)	0%
Watauga	\$16,354.21	(\$8,264.00)	0%
Wayne	\$45,286.30	(\$31,154.00)	0%
Wilkes	\$25,563.11	\$104,783.00	410%
Wilson	\$26,973.49	(\$159,910.00)	0%
Yadkin	\$14,483.09	\$32,145.00	222%
Yancey	\$6,752.03	(\$150,092.00)	0%

\*Calculated by dividing undesignated ending balance by disposal tax allocation. (Counties that exceed 25% are ineligible for disposal tax proceeds).

\*\*Pe/Ch/Ga = Perquimans, Chowan, Gates regional management facility

## **ATTACHMENT A**

### **TRUST FUND REVENUE SOURCES**

The North Carolina Solid Waste Trust Fund received 93 percent of its revenues in FY 2000-2001 from two sources: the statewide fees on the purchase of new tires and white goods (appliances). The Trust Fund only receives a small portion of the proceeds from these fees. The total distribution arrangement of each of these fees is described below:

**Scrap Tire Tax** -During this reporting period (July 1, 2000 - June 30, 2001), a two- percent fee was levied on the purchase of new tires in North Carolina. The tire tax allocation is as follows:

- 68% of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded tires.
- 27% of revenues are credited to the Scrap Tire Disposal Account (administered by the Solid Waste Section) for local government grants and nuisance tire site cleanup.
- 5% of revenues are credited to the Solid Waste Management Trust Fund (administered by the Division of Pollution Prevention & Environmental Assistance).

**White Goods Tax** -During this reporting period (July 1, 2000 - June 30, 2001), a \$3 dollar fee was levied on the purchase on all appliances. The white goods tax allocation is as follows:

- 72% of revenues are distributed to the counties on a per capita basis to pay for the proper management of discarded white goods.
- 20% of revenues are credited to the White Goods Management Account (administered by the Solid Waste Section) for grants to local governments for managing discarded white goods.
- 8% of revenues are credited to the Solid Waste Management Trust Fund (administered by the Division of Pollution Prevention & Environmental Assistance).

**ATTACHMENT B**  
**PARTNERS FOR THE FY 2000-2001 RECYCLE GUYS CAMPAIGN**

<b>Partner Name</b>	<b>Amount Given</b>
North Carolina Soft Drink Association	\$5,000
U.S. Postal Service	\$5,000
Mecklenburg County	\$5,000
City of Greensboro	\$5,000
City of Winston-Salem	\$5,000
City of Raleigh	\$5,000
Wake County	\$5,000
Davidson County	\$2,500
Chatham County	\$1,000
Orange County	\$1,000
Johnston County	\$5,000
City of Durham	\$5,000
City of Charlotte	\$1,000
Duke Energy	\$2,000
Durham County	\$5,000
<b>TOTAL</b>	<b>\$57,500</b>

**ATTACHMENT C**  
**FY 2000-2001 SOLID WASTE REDUCTION ASSISTANCE GRANTS**

<b>GRANTEE</b>	<b>AMOUNT</b>	<b>GRANT DESCRIPTION</b>
<b>Cherokee County</b>	<b>\$3,500.00</b>	Cherokee County will install a swap shop at on of the County convenience centers.
<b>Watauga County</b>	<b>\$3,500.00</b>	Watauga County will install a swap shop at on of the County convenience centers.
<b>Gaston County</b>	<b>\$5,000.00</b>	Gaston County will expand its computer recycling program to provide better access to residents of the County
<b>Town of Morehead City</b>	<b>\$4,500.00</b>	The Town of Morehead City will implement a backyard composting program sale of more than 200 bins, the development of a demonstration site and the distribution of brochures.
<b>Alexander County</b>	<b>\$4,500.00</b>	Alexander County will implement a backyard composting program through the sale of more than 100 bins, the development of a training course and the development of a public school based education program.
<b>Our Father's Children, Inc.</b>	<b>\$3,500.00</b>	Our Father's Children, using a donated trailer, will develop a swap shop program to serve Hoke County.
<b>City of Raleigh</b>	<b>\$16,500.00</b>	The City of Raleigh will implement a curbside "all bottles" pilot project that will allow the City to increase the quantity of plastics collected.
<b>Pitt County</b>	<b>\$14,173.00</b>	Pitt County will purchase a trailer and other materials that will allow the County to expand its recycling efforts to include public events such as fairs and sporting events.
<b>Madison County</b>	<b>\$9,560.00</b>	Madison will make general improvements to two convenience sites and purchase a trailer that will allow for the curbside collection of recyclables from the Town of Hot Springs.
<b>Quality Forward</b>	<b>\$3,315.00</b>	Quality Forward will purchase containers and implement a self-sustaining recycling program at Asheville High School.
<b>Franklin County</b>	<b>\$13,810.00</b>	Franklin County will purchase containers and provide new drop-off based collection programs for both mixed office paper and used post-consumer textiles.
<b>Pamlico County</b>	<b>\$14,000.00</b>	Pamlico County will install glass bunkers to improve the cost-effectiveness of the county recycling program.
<b>Caldwell County</b>	<b>\$3,500.00</b>	Caldwell County will install a swap shop at on of the County convenience centers.
<b>Town of Kernersville</b>	<b>\$4,500.00</b>	The Town of Kernersville will implement a backyard-composting program by selling bins to residents, developing a demonstration site and through the distribution of brochures and "bill" inserts.
<b>Voices and Choices</b>	<b>\$5,000.00</b>	Voices and Choices and Computel, Inc. will work to expand computer reuse and recycling in the greater Mecklenburg County region. The region includes 11 North Carolina Counties.
<b>Town of Fairmont</b>	<b>\$4,500.00</b>	The Town of Fairmont will implement a backyard-composting program through the sale of bins, a compost-training course, a demonstration site and the distribution of educational materials.
<b>Rockingham County</b>	<b>\$4,299.00</b>	Rockingham County will implement a program to deconstruct unwanted and nuisance mobile homes in the County.
<b>City of Hickory</b>	<b>\$12,000.00</b>	The City of Hickory will implement a multi-lingual education program to address underutilization of the City's recycling program.
<b>Iredell County</b>	<b>\$8,000.00</b>	Iredell County will install a glass bunker system to improve the cost effectiveness of the County glass recycling program.

**ATTACHMENT D**  
**FY 2000-2001 ORGANIC WASTE REDUCTION GRANTS**

GRANTEE	AMOUNT	GRANT DESCRIPTION
<b>Weeping Radish Brewery</b>	<b>\$20,463.00</b>	Weeping Radish Brewery will divert food scraps from three company-owned restaurants to their composting site where spent brewers grains and wood wastes are composted.
<b>Inter-Faith Food Shuttle</b>	<b>\$18,500.00</b>	Inter-Faith Food Shuttle will expand its perishable food rescue program to include new generators in Durham and Orange Counties.
<b>Yancey Organic Growers Assoc.</b>	<b>\$20,980.00</b>	Yancey Organic Growers Association will conduct a project to divert grocery and residential food scraps to a new composting facility at an organic farm in Yancey County.
<b>R. Alexander &amp; Associates</b>	<b>\$21,220.00</b>	Alexander & Associates will continue the NC Compost Promotional Initiative to encourage use of composts by end users, such as landscapers, gardeners and agriculture.
<b>Green Horizons</b>	<b>\$19,999.00</b>	Green Horizons will develop a demonstration project for use of compost in erosion and sediment control, including filter berms and compost mulch covers
<b>Progressive Soil Farms*</b>	<b>\$16,625.00</b>	Progressive Soil Farms will investigate the feasibility of using biodegradable wrapping on textile waste bales so they can be diverted from landfilling to composting
<b>Wake Co. Solid Waste Mgt.</b>	<b>\$8,600.00</b>	Wake Count will develop a new approach to making backyard compost bins available to Wake County residents on a year-round basis.

\* Progressive Soil Farms withdrew from funding after receiving award notification

# ATTACHMENT E

## FY 2000-2001 CONSTRUCTION AND DEMOLITION WASTE REDUCTION GRANTS

GRANTEE	AMOUNT	GRANT DESCRIPTION
<b>B&amp;B Companies of NC, Inc.</b>	<b>\$20,000.00</b>	These grant funds a start-up urban wood waste recycling business in New Hill, NC, which will divert approximately 75,000 tons per year.
<b>EJE Recycling, Inc.</b>	<b>\$7,500.00</b>	This project will expand the markets for recycled wood from a mixed C&D recycling operations, and will divert 4000 tons per year.
<b>Union Gypsum</b>	<b>\$12,500.00</b>	This project will expand the collection infrastructure for gypsum in Mecklenburg and Union Counties, and increase diversion by 6,000 tons per year.
<b>Miller C&amp;D Recycling</b>	<b>\$20,000.00</b>	This project will establish a mixed C&D recycling facility, with a diversion of 15,000 tons per year.
<b>Site Clean-up and Recycling</b>	<b>\$5,000.00</b>	This project will expand the collection infrastructure for construction materials recycling, and will divert approximately 2000 tons per year.
<b>Blue Ridge Recycling</b>	<b>\$10,000.00</b>	This project will expand the collection capabilities of a carpet recycler, and divert approximately 1100 tons per year.
<b>New Hanover County</b>	<b>\$12,500.00</b>	This project establishes a gypsum recycling transfer station in New Hanover County, which will recycle approximately 1000 tons per year.
<b>Pasquotank County</b>	<b>\$10,000.00</b>	This project will expand the C&D materials salvage program by leasing truck to contractors for source separating C&D. It will divert 600 tons per year.
<b>Waste Reduction Products Corporation</b>	<b>\$7,500.00</b>	This project will expand the collection of scrap gypsum from construction sites, and will divert 3000 tons per year.
<b>Habitat for Humanity-Alamance County</b>	<b>\$7,500.00</b>	This project will establish a used building materials store and divert 350 tons per year.
<b>Total Maintenance, Inc.</b>	<b>\$10,000.00</b>	This project will establish a wood recycling system for an existing construction site clean-up business, which will divert 2300 tons per year.
<b>Habitat for Humanity-Wake County</b>	<b>\$7,500.00</b>	This project expands the outreach to homebuilders to increase the donations of used building materials to support the restore. It will divert 150 tons per year.

**ATTACHMENT F**  
**FY 2000-2001 PAPER WASTE REDUCTION GRANTS**

GRANTEE	AMOUNT	GRANT DESCRIPTION
City of Asheville	\$890.00	The City of Asheville will purchase bins to initiate a mixed paper and newspaper recycling program in city buildings.
Davidson County	\$8,000.00	Davidson County will purchase collection containers to implement a mixed paper recycling program at its drop-off centers.
Gaston County	\$10,000.00	Gaston County will purchase containers to initiate paper recycling services at a new drop-off site.
J&J Recycling Co., Inc.	\$12,000.00	J&J Recycling will purchase and install a fiber sorting line to expand paper recycling capacity.
Ashe County Schools	\$2,000.00	Ashe County Schools will purchase containers to implement a paper recycling program.
MASLO Co., Inc	\$8,000.00	The MASLO Company will expand storage space to accommodate increased collection of paper.
McDowell County	\$11,600.00	McDowell County will purchase containers and pour a concrete pad to expand collection of newsprint.
Rowan County	\$6,300.00	Rowan County will implement an office paper recycling program serving businesses in downtown Salisbury.
Stanly County*	\$25,000.00	Stanly County will purchase a horizontal baler to process increased amounts of recovered paper.

\* Funded in conjunction with Solid Waste Reduction Assistance Grant

**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS (INCLUDES CONSTRUCTION AND  
DEMOLITION LANDFILLS\*\*\*), DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	
1304	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	593,659	621,833	875,286	941,848	1,101,304	1,000,909	MSWLF
6204	UWHARRIE ENV. REG. LANDFILL	13,055	62,126	293,753	547,286	531,407	685,584	MSWLF
9209	WAKE COUNTY LANDFILL				533,345	598,202	589,252	MSWLF
0803	ADDINGTON-EAST CAROLINA REG LF	361,517	358,284	365,737	411,117	504,330	447,290	MSWLF
8202	WI-SAMPSON COUNTY DISPOSAL INC	231,233	258,194	385,527	574,579	577,190	447,290	MSWLF
3402	WINSTON-SALEM, CITY OF - LANDFILL	299,140	310,660	299,740	305,930	301,098	323,049	MSWLF
3406	PIEDMONT SANITARY LANDFILL	552,899	606,859	551,748	379,945	348,182	292,808	MSWLF
4112	GREENSBORO, CITY OF			192,362	250,375	275,061	269,228	MSWLF
7304	ADDINGTON-UPPER PIEDMONT REG LF		150	104,026	256,943	248,401	220,253	MSWLF
6013	NORTH MECKLENBURG C&D LANDFILL	248,115	281,168	246,232	228,934	269,545	206,805	CDLF
1803	CATAWBA COUNTY LANDFILL			184,526	165,360	173,722	174,900	MSWLF
2509	CRSWMA- INTERIM REGIONAL LANDFILL					117,751	167,504	MSWLF
1403	FOOTHILLS ENVIRONMENTAL LANDFILL				106,779	173,271	165,086	MSWLF
4103	GREENSBORO, CITY OF			29,319	45,292	140,184	162,592	CDLF
9203	WAKE COUNTY CDLF			20,879	57,933	122,476	156,378	CDLF
6504	NEW HANOVER COUNTY LANDFILL	114,365	163,648	155,442	101,105	163,860	148,792	MSWLF
4104	HIGH POINT CITY OF - LANDFILL	93,248	101,579	110,687	117,836	151,049	148,349	MSWLF
6019	MECKLENBURG COUNTY LANDFILL					14,972	135,498	CDLF
2601	CUMBERLAND COUNTY LANDFILL				138,603	131,134	132,410	MSWLF
1107	BUNCOMBE COUNTY MSW LANDFILL			85,466	109,734	120,143	122,333	MSWLF
4903	IREDELL COUNTY SANITARY LF	103,586	143,752	119,003	118,742	111,914	121,341	MSWLF
6505-I	NEW HANOVER WASTE-TO-ENERGY FACILITY	133,439	133,128	129,200	127,589	112,132	108,381	MSWLF
5504	BFI-LAKE NORMAN LANDFILL				6,766	61,317	103,598	CDLF

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**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS (INCLUDES CONSTRUCTION AND  
DEMOLITION LANDFILLS\*\*\*), DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	
6709	ONslow COUNTY SUBTITLE D LANDFILL			47,458	105,477	118,411	103,057	MSWLF
2906	DAVIDSON CO MSW LINED LANDFILL	92,137	86,544	79,403	95,524	101,864	101,991	MSWLF
0105	COBLE'S C&D LANDFILL				14,111	40,488	99,226	CDLF
7803	ROBESON COUNTY LANDFILL				90,378	96,147	96,089	MSWLF
0104	AUSTIN QUARTER SWM FACILITY	67,484	65,897	69,765	79,128	85,040	94,979	MSWLF
3412	WINSTON-SALEM CITY OF C&D LANDFILL		34,275	84,509	89,920	77,372	93,100	CDLF
2608	FORT BRAGG C&D LANDFILL			33,104	61,263	101,102	91,743	CDLF
5102	JOHNSTON COUNTY LANDFILL			61,933	96,923	94,599	89,683	MSWLF
7904	ROCKINGHAM COUNTY LANDFILL	52,474	59,829	69,056	83,155	80,379	80,402	MSWLF
9606	WAYNE COUNTY			37,216	99,601	106,239	79,809	MSWLF
2301	CLEVELAND COUNTY LANDFILL				62,479	70,776	70,845	MSWLF
8003	ROWAN COUNTY LANDFILL	83,378	65,641	71,762	63,812	80,714	69,471	MSWLF
3606	GASTON COUNTY LANDFILL			150,775	111,395	77,839	67,901	MSWLF
9704	WILKES COUNTY MSWLF	41,372	57,827	58,196	63,217	71,136	59,143	MSWLF
6801	ORANGE COUNTY LANDFILL	57,889	58,590	59,305	60,368	62,404	58,955	MSWLF
1306	HIGHWAY 49 C&D LANDFILL AND RECYCLING					11,586	57,101	CDLF
8606	SURRY COUNTY LANDFILL			26,855	21,660	51,075	56,947	MSWLF
4903	IREDELL COUNTY C&D UNIT	24,278	31,860	30,620	45,471	50,585	47,735	CDLF
3301	EDGCOMBE COUNTY CDLF			5,878	18,935	86,968	44,236	CDLF
1107	BUNCOMBE COUNTY C&D UNIT			15,089	30,899	43,147	43,370	CDLF
4407	HAYWOOD CO WHITE OAK LANDFILL	38,630	39,340	42,899	44,023	47,187	43,260	MSWLF
6708	CAMP LEJEUNE MSW LANDFILL			19,629	58,694	36,652	39,653	MSWLF
9801	WILSON COUNTY CDLF			11,973	19,352	39,785	39,464	CDLF
5503	LINCOLN COUNTY LANDFILL	34,238	31,596	35,391	38,438	40,065	38,481	MSWLF

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**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS (INCLUDES CONSTRUCTION AND  
DEMOLITION LANDFILLS\*\*\*), DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	
8401	ALBEMARLE, CITY OF-LANDFILL			29,748	4,488	39,920	38,251	MSWLF
5101	JOHNSTON COUNTY C&D LANDFILL				4,494	33,842	37,728	CDLF
5403	LENOIR COUNTY CDLF			15,832	18,104	40,664	37,223	CDLF
5703	MACON COUNTY LANDFILL	19,474	19,987	27,205	36,130	36,844	36,510	MSWLF
3606	GASTON COUNTY C&D LANDFILL					45,837	35,091	CDLF
6801	ORANGE COUNTY C&D UNIT	31,342	37,832	30,168	33,667	30,515	33,471	CDLF
1302	CABARRUS COUNTY CDLF			5,107	19,236	26,292	32,294	CDLF
6301	MOORE COUNTY C&D LANDFILL					31,849	31,144	CDLF
9601	WAYNE COUNTY CDLF			5,154	17,630	38,342	30,838	CDLF
9001	UNION COUNTY C&D				15,481	33,670	28,546	CDLF
8301	SCOTLAND COUNTY CDLF			12,058	28,212	26,785	28,446	CDLF
1007	BRUNSWICK COUNTY CDLF			14,254	26,865	59,996	26,231	CDLF
9214	BFI-HOLLY SPRINGS DISPOSAL INC	234,408	219,504	254,901	310,069	161,772	25,251	CDLF
2803	DARE COUNTY C&D LANDFILL	14,638	18,417	20,469	21,788	32,495	25,215	CDLF
0501	ASHE COUNTY LANDFILL				17,877	19,454	24,833	MSWLF
8401	ALBEMARLE, CITY OF, CDLF			10,173	28,651	23,903	24,370	CDLF
9003	GRIFFIN FARMS C&D LANDFILL	17,070	34,550	36,460	40,951	40,658	24,088	CDLF
3902	GRANVILLE COUNTY CDLF			7,744	20,656	23,445	22,122	CDLF
8202	WI-SAMPSON COUNTY C&D UNIT	18,686	191,254	25,712	32,414	103,942	21,618	CDLF
1203	BURKE COUNTY CDLF			4,647	12,738	13,938	20,712	CDLF
8807	TRANSYLVANIA COUNTY LANDFILL	9,294	11,533	14,082	15,585	18,439	20,186	MSWLF
2002	CHEROKEE COUNTY MSW FACILITY			8,248	18,374	19,470	20,138	MSWLF
7803	ROBESON COUNTY CDLF					7,315	18,990	CDLF
2601	CUMBERLAND COUNTY C&D UNIT			23,674	36,381	21,377	16,314	CDLF

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**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS (INCLUDES CONSTRUCTION AND  
DEMOLITION LANDFILLS\*\*\*), DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	
8602	SURRY COUNTY C&D LANDFILL				19,488	16,745	15,951	CDLF
8103	RUTHERFORD COUNTY C&D UNIT	12,104	9,744	8,527	9,559	12,102	14,963	CDLF
2301	CLEVELAND COUNTY CDLF			5,857	13,069	13,238	14,790	CDLF
4302	HARNETT COUNTY CDLF			3,066	7,208	18,472	14,109	CDLF
4501	HENDERSON COUNTY C&D LANDFILL					11,258	11,780	CDLF
5503	LINCOLN COUNTY C&D UNIT	3,053	3,311	5,411	4,341	6,874	11,404	CDLF
2505	PHOENIX RECYCLING SITE #1 (Stockpiled 1999)	27,026	54,735	36,693	33,293	32,445	10,568	CDLF
5803	MADISON COUNTY LANDFILL	9,954	7,868	4,683	4,642	6,759	8,299	MSWLF
5301	LEE COUNTY C&D LANDFILL	5,370	5,669	6,833	9,537	9,708	7,987	CDLF
0104	AUSTIN QUARTER C&D UNIT	9,299	10,824	10,499	10,240	8,079	7,324	CDLF
5704	HIGHLANDS C&D LANDFILL	4,356	3,681	4,531	7,018	6,968	7,274	CDLF
07A	BEAUFORT COUNTY DEMO LANDFILL	8,845	11,240		8,914	10,140	6,944	CDLF
7002	PASQUOTANK COUNTY C&D LANDFILL	1,794	7,275	8,606	8,276	6,895	6,490	CDLF
4303	HARNETT CO ANDERSON CRK C&D LANDFILL		1,890		9,737	7,872	5,928	CDLF
0905	BLADEN COUNTY C&D LANDFILL					358	5,635	CDLF
4204	HALIFAX COUNTY CDLF			2,591	3,765	5,220	4,588	CDLF
4002	GREENE COUNTY CDLF			554	6,051	5,569	4,541	CDLF
0201	ALEXANDER COUNTY CDLF			1,448	2,840	4,189	4,000	CDLF
5901	MARTIN COUNTY C&D LANDFILL	3,530	8,141	9,189	9,775	10,828	3,759	CDLF
10002	YANCEY-MITCHELL C&D LANDFILL	3,600	3,484	2,831	3,477	6,327	3,751	CDLF
0603	AVERY COUNTY C&D LANDFILL		266	1,077	879	3,320	3,478	CDLF
9902	YADKIN COUNTY C&D LANDFILL	2,728	3,319	4,026	4,004	3,340	3,435	CDLF
5803	MADISON COUNTY C&D UNIT	1,062	10,481	1,378	4,083	3,414	3,421	CDLF
	POLK CO. C&D STOCKPILE	1,577	2,380	1,374	1,402	2,528	3,158	CDLF

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**APPENDIX A-1: PUBLIC AND PRIVATE MUNICIPAL SOLID WASTE LANDFILLS (INCLUDES CONSTRUCTION AND  
DEMOLITION LANDFILLS\*\*\*), DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS						FACILITY TYPE
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	
3003	DAVIE COUNTY C&D LANDFILL	6,859	6,040	6,528	4,518	4,018	3,072	CDLF
5002	JACKSON COUNTY LANDFILL CDLF			552	4,437	3,226	2,113	CDLF
9404	WASHINGTON COUNTY C&D LANDFILL	103	1,084	509	1,454	1,119	764	CDLF
	NORTHAMPTON CO. C&D STOCKPILE	438	1,579	916	964	2,137	708	CDLF
<b>TOTAL TONS</b>		<b>3,233,005</b>	<b>3,682,746</b>	<b>4,258,863</b>	<b>5,833,066</b>	<b>7,933,025</b>	<b>8,846,120</b>	

**C&D = Construction and Demolition Waste**

**\*CRSWMA = Coastal Regional Solid Waste Management Authority**

**\*\*Permit conditions include acceptance of C&D waste.**

**\*\*\*C&D Unit data reported separately from MSW landfill beginning 1995-1996.**

**APPENDIX A-2: SCRAP TIRE MONOFILLS , DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS					
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
1303	US TIRE DISPOSAL	39,877	71,170	67,182	76,297	84,735	89,426
4304	CENTRAL CAROLINA TIRE MONOFILL	38,127	37,583	41,188	50,801	51,801	61,104
<b>TOTAL TONS</b>		<b>97,613</b>	<b>78,004</b>	<b>108,753</b>	<b>108,370</b>	<b>127,098</b>	<b>150,530</b>

**APPENDIX A-3: INCINERATION FACILITIES, DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS					
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
6505-I	NEW HANOVER WASTE-TO-ENERGY	133,439	133,128	129,200	127,589	112,132	108,381
<b>TOTAL TONS</b>		<b>95,283</b>	<b>133,439</b>	<b>133,128</b>	<b>129,200</b>	<b>127,589</b>	<b>108,381</b>

**APPENDIX A-4: PRIVATE INDUSTRIAL LANDFILLS, DESCENDING ORDER OF TONS, FY 2000-2001**

PERMIT #	FACILITY	TONS					
		1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
7302	CAROLINA POWER & LIGHT CO	547,750	496,565	631,416	496,305	588,129	637,626
1804	DUKE POWER/MARSHALL STEAM PLT	90,925	77,394		288,556	376,809	231,476
2402	INTERNATIONAL PAPER	69,833	295,426	64,987	234,794	329,954	423,709
4406	BLUE RIDGE PAPER PRODUCTS, INC.	345,674	343,938	324,005	242,312	252,790	254,825
8503	DUKE POWER/BELEWS CREEK ST PLT	44,830	75,680	79,015	83,909	138,846	204,415
2302	CLEVELAND CONTAINER SERVICE	75,675	76,192		93,788	120,141	101,102
9401	WEYERHAEUSER	45,534	49,909	84,432	76,147	73,672	69,697
3405	R J REYNOLDS	48,881	42,809	40,309	39,021	47,378	52,166
1102	BASF CORPORATION	12,308	9,915	12,514	12,716	12,441	10,490
2502	WEYERHAEUSER	6,506	19,245	20,410	14,601	10,472	13,773
8801	ECUSTA ASH LANDFILL	12,965	14,295	14,938	12,538	8,870	5,395
8805	ECUSTA LANDFILL	5,140	5,534	5,250	5,981	6,276	3,791
4204	HALIFAX COAL ASH LANDFILL				47,995	4,837	5,713
9703	ABTCO INC	4,226	3,443	3,937	3,607	3,771	2,918
5603	COLLINS & AIKMAN	4,747	3,405	2,647	2,796	2,211	2,988
6004	DUKE POWER COMPANY	73	144	189	3,260	1,673	2,187
7602	EVEREADY BATTERY	368	251	290	451	520	616
1006	DUPONT CAPE FEAR PLANT			197	119	101	2
9210	CAROLINA POWER & LIGHT CO	32	41		126	68	11
<b>TOTAL TONS</b>		<b>1,315,467</b>	<b>1,514,186</b>	<b>1,284,536</b>	<b>1,659,022</b>	<b>1,978,958</b>	<b>2,022,901</b>

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# APPENDIX A-5: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2000-2001

PERMIT #	FACILITY	2000-2001	DISPOSAL DESTINATION	PERMIT #
0202-T	ALEXANDER CO. TRANSFER STATION	20,314	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
0303-T	ALLEGHANY COUNTY TRANSFER FACILITY	8,003	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
0402-T	ANSON COUNTY TRANSFER STATION	7,356	LEE COUNTY LANDFILL, SC	
0703-T	ARS - BEAUFORT TRANSFER STATION	42,242	ADDINGTON-EAST CAROLINA REG LF	0803
0602-T	AVERY COUNTY TRANSFER STATION	9,730	BRISTOL LANDFILL, VA	
0904-T	BLADEN COUNTY TRANSFER STATION	30,398	WI-SAMPSON COUNTY DISPOSAL INC	8202
1010-T	BRUNSWICK COUNTY TRANSFER STATION	63,295	WI-SAMPSON COUNTY DISPOSAL INC	8202
1108-T	BUNCOME COUNTY TRANSFER STATION	34,211	BUNCOMBE COUNTY MSW LANDFILL	1107
1205-T	BURKE COUNTY TRANSFER FACILITY	57,954	FOOTHILLS ENVIRONMENTAL LANDFILL	1403
1604	CARTERET COUNTY TRANSFER STATION	75,892	CRSWMA- INTERIM REGIONAL LANDFILL	2509
9211	CARY TOWN OF - TRANSFER STATION	1,313	WAKE COUNTY LANDFILL	9209
9211	CARY TOWN OF - TRANSFER STATION	9,302	WI-SAMPSON COUNTY DISPOSAL INC	8202
9211	CARY TOWN OF - TRANSFER STATION	6,958	BRUNSWICK LANDFILL, VA	
2510-T	CHERRY POINT T. S.	8,105	CRSWMA - INTERIM REGIONAL LF	2504
3212-T	CITY OF DURHAM TRANSFER STATION	216,116	BRUNSWICK LANDFILL, VA	
6405-T	CITY OF ROCKY MOUNT TRANSFER STATION #2	24,352	BRUNSWICK LANDFILL, VA	
2202-T	CLAY COUNTY TRANSFER STATION	4,490	PINEBLUFF LANDFILL, GA	
2403-T	COLUMBUS COUNTY T. S.	30,245	WI-SAMPSON COUNTY DISPOSAL INC	8202
2703-T	CURRITUCK TRANSFER STATION	27,619	ADDINGTON-EAST CAROLINA REG LF	0803
9224	D.H. GRIFFIN RECLAMATION CENTER	1,656	COBLE'S C&D LANDFILL	0105

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**APPENDIX A-5: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2000-2001**

PERMIT #	FACILITY	2000-2001	DISPOSAL DESTINATION	PERMIT #
9224	D.H. GRIFFIN RECLAMATION CENTER	8,389	BFI-HOLLY SPRINGS DISPOSAL INC	9214
2804-T	DARE COUNTY TRANSFER STATION	54,729	ADDINGTON-EAST CAROLINA REG LF	0803
3002	DAVIE COUNTY TRANSFER STATION	15,920	WINSTON-SALEM, CITY OF - LANDFILL	3402
3102	DUPLIN COUNTY TRANSFER STATION	29,545	WI-SAMPSON COUNTY DISPOSAL INC	8202
5407-T	DUPONT KINSTON TRANSFER FACILITY	9,428	WI-SAMPSON COUNTY DISPOSAL INC	8202
8004-T	EAST SPENCER WASTE TRANSFER FACILITY	31,855	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
8004-T	EAST SPENCER WASTE TRANSFER FACILITY	68,113	PIEDMONT SANITARY LANDFILL	3406
7903-T	EDEN, CITY OF TRANSFER STATION	11,064	ROCKINGHAM COUNTY LANDFILL	7904
3302-T	EDGCOMBE COUNTY TRANSFER STATION	38,349	ADDINGTON-EAST CAROLINA REG LF	0803
7405	EJE RECYCLING AND DISPOSAL	2,382	ADDINGTON-EAST CAROLINA REG LF	0803
7406T	EJE RECYCLING TRANSFER STATION	1,413	ADDINGTON-EAST CAROLINA REG LF	0803
2606-T	FORT BRAGG TRANSFER STATION	27,211	UWHARRIE ENV. REG. LANDFILL	6204
3502-T	FRANKLIN COUNTY TRANSFER STATON	32,027	BRUNSWICK LANDFILL, VA	
3502-T	FRANKLIN COUNTY TRANSFER STATON	3,436	ADDINGTON-UPPER PIEDMONT REG LF	7304
1805	GDS RECYCLING SERVICES	8,241	CATAWBA COUNTY LANDFILL	1803
9607-T	GOLDSBORO TRANSFER STATION	11,855	WAYNE COUNTY	9606
4307-T	HARNETT CNTY-DUNN/ERWIN T.S.	39,651	UWHARRIE ENV. REG. LANDFILL	6204
4305-T	HARNETT COUNTY TRANSFER STATION	7,049	UWHARRIE ENV. REG. LANDFILL	6204
4408	HAYWOOD COUNTY MWP FACILITY	43,260	HAYWOOD CO WHITE OAK LANDFILL	4407
4504-T	HENDERSON COUNTY TRANSFER FACILITY	41,563	PALMETTO LANDFILL, SC	

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# APPENDIX A-5: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2000-2001

PERMIT #	FACILITY	2000-2001	DISPOSAL DESTINATION	PERMIT #
4602-T	HERTFORD COUNTY TRANSFER STATION	1,814	ADDINGTON-EAST CAROLINA REG LF	0803
4702	HOKE COUNTY TRANSFER STATION	19,339	UWHARRIE ENV. REG. LANDFILL	6204
4904-T	IREDELL COUNTY TRANSFER STATION	1,412	IREDELL COUNTY C&D UNIT	4903
4904-T	IREDELL COUNTY TRANSFER STATION	35,303	IREDELL COUNTY SANITARY LF	4903
1907-T	LEE PAVING CO./PCM CONSTRUCTION	2,070	BFI-HOLLY SPRINGS DISPOSAL INC	9214
1907-T	LEE PAVING CO./PCM CONSTRUCTION	23,977	COBLE'S C&D LANDFILL	0105
5405-T	LENOIR COUNTY TRANSFER FACILITY	53,658	WI-SAMPSON COUNTY DISPOSAL INC	8202
5602-T	McDOWELL CO TRANSFER FACILITY	35,586	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
6903-T	PAMLICO COUNTY TRANSFER STATION	5,879	CRSWMA- INTERIM REGIONAL LANDFILL	2509
7003-T	PASQUOTANK COUNTY TRANSFER STATION	27,536	ADDINGTON-EAST CAROLINA REG LF	0803
9227-T	PCM NORTH RALEIGH C&D TRANSFER STATION	6,447	BFI-HOLLY SPRINGS DISPOSAL INC	9214
9227-T	PCM NORTH RALEIGH C&D TRANSFER STATION	6,745	COBLE'S C&D LANDFILL	0105
7103-T	PENDER CO TRANSFER STATION	18,786	WI-SAMPSON COUNTY DISPOSAL INC	8202
7202-T	PERQUIMANS-CHOWAN-GATES TRANSFER	22,171	ADDINGTON-EAST CAROLINA REG LF	0803
7404-T	PITT COUNTY TRANSFER STATION	125,720	ADDINGTON-EAST CAROLINA REG LF	0803
7503-T	POLK COUNTY TRANSFER STATION	3,946	PALMETTO LANDFILL, SC	
7603-T	RANDOLPH COUNTY TRANSFER FACILITY	96,124	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
9605	RECYCLED MATERIAL INC.	2	WAYNE COUNTY	9606
7902-T	REIDSVILLE, CITY OF TRANSFER FACILITY	6,386	PIEDMONT SANITARY LANDFILL	3406
7902-T	REIDSVILLE, CITY OF TRANSFER FACILITY	21	AMELIA LANDFILL	

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**APPENDIX A-5: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2000-2001**

PERMIT #	FACILITY	2000-2001	DISPOSAL DESTINATION	PERMIT #
7703-T	RICHMOND COUNTY TRANSFER STATION	40,008	UWHARRIE ENV. REG. LANDFILL	6204
6402-T	ROCKY MOUNT TRANSFER STATION	67,482	BRUNSWICK LANDFILL, VA	
8104-T	RUTHERFORD COUNTY TRANSFER FACILITY	44,617	PALMETTO LANDFILL, SC	
8302-T	SCOTLAND COUNTY T.S.	26,827	UWHARRIE ENV. REG. LANDFILL	6204
5003-T	SCOTT CREEK C&D TRANSFER STATION	176	R&B LANDFILL	
2705	SOUNDSIDE RECYCLING & MATERIALS, INC	179	ADDINGTON-EAST CAROLINA REG LF	0803
2705	SOUNDSIDE RECYCLING & MATERIALS, INC	266	INDIAN TRAIL DISPOSAL	
9221-T	SOUTH WAKE TRANSFER STATION	174,138	WAKE COUNTY LANDFILL	9209
8603-T	SURRY COUNTY TRANSFER STATION	14,361	SURRY COUNTY LANDFILL	8606
2101-T	TOWN OF EDENTON TRANSFER STATION	5,209	ADDINGTON-EAST CAROLINA REG LF	0803
5103-T	TOWN OF SMITHFIELD TRANSFER STATION	3,142	WI-SAMPSON COUNTY DISPOSAL INC	8202
5103-T	TOWN OF SMITHFIELD TRANSFER STATION	1,121	JOHNSTON COUNTY LANDFILL	5102
	TRIBAL TRANSFER STATION	22,235	PALMETTO LANDFILL, SC	
9005-T	UNION COUNTY TRANSFER STATION	71,745	UWHARRIE ENV. REG. LANDFILL	6204
6014	USA WASTE SERVICES TRANSFER ST.	200,692	UWHARRIE ENV. REG. LANDFILL	6204
6302	UWHARRIE ENV INC/MOORE CTY TS	57,005	UWHARRIE ENV. REG. LANDFILL	6204
6202-MRF	UWHARRIE ENVIRONMENTAL MRF	16,867	UWHARRIE ENV. REG. LANDFILL	6204
9302-T	WARREN COUNTY TRANSFER STATION	7,718	BRUNSWICK LANDFILL, VA	
9302-T	WARREN COUNTY TRANSFER STATION	700	ADDINGTON-UPPER PIEDMONT REG LF	7304
9217	WASTE INDUSTRIES CROSSWINDS PARK T S	1,049	WI-SAMPSON COUNTY DISPOSAL INC	8202

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# APPENDIX A-5: TRANSFER STATIONS AND MIXED WASTE PROCESSING FACILITIES, FY 2000-2001

PERMIT #	FACILITY	2000-2001	DISPOSAL DESTINATION	PERMIT #
9808-T	WASTE INDUSTRIES- BLK. CRK. RD. TRANSFER	27,531	BRUNSWICK LANDFILL, VA	
9808-T	WASTE INDUSTRIES- BLK. CRK. RD. TRANSFER	73,416	WI-SAMPSON COUNTY DISPOSAL INC	8202
9102-T	WASTE INDUSTRIES-VANCE COUNTY	16,342	BRUNSWICK LANDFILL, VA	
9102-T	WASTE INDUSTRIES-VANCE COUNTY	41,097	ADDINGTON-UPPER PIEDMONT REG LF	7304
1903-T	WASTE MAN. - CHATHAM CO TRANSFER STATION	28,070	UWHARRIE ENV. REG. LANDFILL	6204
5304-T	WASTE MAN. - LEE CO.TRANSFER STATION	1,738	UWHARRIE ENVIRONMENTAL MRF	6202-MRF
5304-T	WASTE MAN. - LEE CO.TRANSFER STATION	58,156	UWHARRIE ENV. REG. LANDFILL	6204
1104	WASTE MANAGEMENT OF ASHEVILLE	126,623	PALMETTO LANDFILL, SC	
3608	WASTE MANAGEMENT OF CAROLINAS	110,146	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
3608	WASTE MANAGEMENT OF CAROLINAS	44,677	PALMETTO LANDFILL, SC	
9215-T	WASTE MANAGEMENT OF RAL-DUR	8,950	COBLE'S C&D LANDFILL	0105
9215-T	WASTE MANAGEMENT OF RAL-DUR	64,886	ADDINGTON-UPPER PIEDMONT REG LF	7304
9215-T	WASTE MANAGEMENT OF RAL-DUR	38,037	BRUNSWICK LANDFILL, VA	
9503-T	WATAUGA CO TRANSFER FACILITY	41,443	IRIS GLEN LANDFILL, TN	
4205-T	WELDON, TOWN OF, T.S.	9,078	AMELIA LANDFILL	
4205-T	WELDON, TOWN OF, T.S.	30,275	ATLANTIC WASTE DISPOSAL INC.	
4205-T	WELDON, TOWN OF, T.S.	7,607	ADDINGTON-EAST CAROLINA REG LF	0803
9903	YADKIN COUNTY TRANSFER FACILITY	16,218	BFI-CHARLOTTE MTR SPEEDWAY LANDFILL V	1304
10003-T	YANCEY-MITCHELL TRANSFER STATION	24,174	PALMETTO LANDFILL, SC	
<b>TOTAL TONS</b>		<b>3,181,953</b>		

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**APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2000-2001**

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	% WASTE REDUCTION
			1997-1998	1998-1999	1999-2000	2000-2001			
	JULY	1991-199					1991-1992	2000-2001	2000-2001**
ALAMANCE	130,800	99,302	88,901	113,694	135,310	142,244	0.91	1.09	-20%
ALEXANDER	33,603	25,716	21,192	20,925	23,657	24,636	0.90	0.73	19%
ALLEGHANY	10,677	14,131	7,795	7,732	8,187	8,160	1.45	0.76	47%
ANSON	25,275	14,229	3,621	18,035	18,443	19,471	0.61	0.77	-26%
ASHE	24,384	18,089	18,877	21,038	22,176	24,903	0.81	1.02	-26%
AVERY	17,167	11,130	14,571	16,281	17,343	16,724	0.74	0.97	-32%
BEAUFORT	44,958	41,796	42,796	54,006	58,264	51,840	0.99	1.15	-16%
BERTIE	19,773	17,372	23,178	20,484	28,265	21,319	0.86	1.08	-25%
BLADEN	32,278	25,048	30,657	38,098	55,779	35,536	0.86	1.10	-28%
BRUNSWICK	73,143	78,123	151,765	108,579	126,699	87,059	1.48	1.19	20%
BUNCOMBE	206,330	159,040	198,703	224,806	247,300	251,472	0.90	1.22	-35%
BURKE	89,148	78,006	64,963	79,003	85,490	88,239	1.02	0.99	3%
CABARRUS	131,063	95,215	134,481	136,245	160,186	187,508	0.94	1.43	-52%
CALDWELL	77,415	65,532	80,904	107,431	100,327	91,387	0.92	1.18	-28%
CAMDEN	6,885	1,850	3,775	3,009	2,314	2,872	0.31	0.42	-35%
CARTERET	59,383	86,894	58,526	67,763	84,521	78,191	1.62	1.32	19%
CASWELL	23,501	5,136	8,856	9,228	9,853	11,250	0.25	0.48	-91%
CATAWBA	141,685	151,559	153,828	166,451	155,849	156,951	1.26	1.11	12%
CHATHAM	49,329	33,235	30,256	34,360	34,670	28,377	0.84	0.58	32%
CHEROKEE	24,298	16,020	16,417	18,374	19,470	20,209	0.78	0.83	-7%
CHOWAN	14,526	13,692	9,551	15,081	15,808	16,804	0.99	1.16	-17%
CLAY	8,775	4,172	2,383	3,914	4,572	4,480	0.57	0.51	10%
CLEVELAND	96,287	73,138	74,749	81,228	84,685	87,224	0.86	0.91	-5%
COLUMBUS	54,749	45,199	37,568	38,404	41,240	42,526	0.91	0.78	15%
CRAVEN	91,436	86,549	51,080	51,681	94,903	92,746	1.05	1.01	3%
CUMBERLAND	302,963	227,302	335,705	366,067	389,287	351,620	0.81	1.16	-43%

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**APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2000-2001**

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	% WASTE REDUCTION
			1997-1998	1998-1999	1999-2000	2000-2001			
	JULY	1991-199					1991-1992	2000-2001	2000-2001**
CURRITUCK	18,190	13,792	19,095	21,934	28,875	26,241	1.00	1.44	-44%
DARE	29,967	51,300	63,805	68,991	80,713	73,445	2.23	2.45	-10%
DAVIDSON	147,246	139,617	121,326	123,967	134,640	137,460	1.08	0.93	14%
DAVIE	34,835	19,348	26,741	23,403	26,766	33,288	0.68	0.96	-41%
DUPLIN	49,063	33,310	37,243	38,949	50,075	37,909	0.82	0.77	6%
DURHAM	223,314	218,972	246,571	253,439	267,300	224,407	1.17	1.00	14%
EDGECOMBE	55,606	71,471	101,426	86,228	157,397	113,185	1.25	2.04	-63%
FORSYTH	306,067	304,290	440,241	445,674	422,828	465,134	1.14	1.52	-33%
FRANKLIN	47,260	28,702	39,184	43,462	47,991	47,554	0.76	1.01	-32%
GASTON	190,365	165,100	224,255	250,700	260,383	215,226	0.93	1.13	-22%
GATES	10,516	5,897	4,403	4,687	4,806	5,044	0.63	0.48	24%
GRAHAM	7,993	4,508	5,493	6,672	5,368	7,724	0.62	0.97	-56%
GRANVILLE	48,498	54,548	64,004	59,941	61,397	61,014	1.39	1.26	9%
GREENE	18,974	7,428	8,679	11,293	9,397	7,636	0.48	0.40	16%
GUILFORD	421,048	471,541	619,485	525,916	756,755	730,012	1.35	1.73	-28%
HALIFAX	57,370	54,907	39,763	38,773	40,831	42,782	0.98	0.75	24%
HARNETT	91,025	69,073	68,721	65,745	77,364	70,712	1.01	0.78	23%
HAYWOOD	54,033	57,842	43,755	45,324	48,376	44,448	1.21	0.82	32%
HENDERSON	89,173	81,498	95,125	87,636	94,280	95,443	1.14	1.07	6%
HERTFORD	22,601	14,288	14,586	14,567	19,580	20,659	0.63	0.91	-45%
HOKE	33,646	18,331	16,834	18,042	18,543	19,977	0.80	0.59	26%
HYDE	5,826	2,762	2,553	5,501	4,970	5,086	0.50	0.87	-75%
IREDELL	122,660	114,539	150,528	167,214	180,237	174,900	1.19	1.43	-20%
JACKSON	33,121	18,661	22,266	19,452	26,026	40,476	0.68	1.22	-80%
JOHNSTON	121,965	74,169	117,438	105,199	147,009	136,796	0.88	1.12	-27%
JONES	10,381	4,360	2,266	2,177	4,168	1,647	0.47	0.16	66%

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**APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2000-2001**

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	% WASTE REDUCTION
	JULY	1991-199	1997-1998	1998-1999	1999-2000	2000-2001	1991-1992	2000-2001	2000-2001**
LEE	49,040	48,341	61,277	78,594	71,824	67,018	1.16	1.37	-18%
LENOIR	59,648	67,693	95,019	74,802	114,094	93,061	1.17	1.56	-33%
LINCOLN	63,780	44,442	54,435	58,691	64,593	70,311	0.87	1.10	-27%
MACON	29,811	19,738	24,381	28,133	30,366	30,009	0.82	1.01	-23%
MADISON	19,635	11,676	6,064	8,751	10,175	12,464	0.68	0.63	7%
MARTIN	25,593	30,112	24,880	25,380	28,257	18,475	1.19	0.72	39%
MCDOWELL	42,151	29,180	31,272	33,790	36,120	38,015	0.82	0.90	-10%
MECKLENBURG	695,454	677,573	1,051,342	1,214,764	1,282,196	1,233,824	1.29	1.77	-38%
MITCHELL	15,687	15,768	10,691	11,408	13,561	16,287	1.11	1.04	6%
MONTGOMERY	26,822	28,873	14,531	31,872	30,066	29,567	1.23	1.10	10%
MOORE	74,769	74,062	87,953	99,060	99,851	94,265	1.23	1.26	-3%
NASH	87,420	84,594	49,967	64,926	101,733	59,396	1.09	0.68	38%
NEW HANOVER	160,307	157,647	289,879	266,602	275,930	259,305	1.28	1.62	-26%
NORTHAMPTON	22,086	19,528	12,562	20,301	22,798	20,811	0.94	0.94	0%
ONslow	150,355	158,344	130,087	166,651	154,486	144,917	1.04	0.96	7%
ORANGE	118,227	131,067	92,819	97,299	99,661	102,485	1.36	0.87	36%
PAMLICO	12,934	8,541	6,155	6,977	8,763	7,357	0.75	0.57	24%
PASQUOTANK	34,897	30,150	32,655	33,740	35,017	32,065	0.97	0.92	5%
PENDER	41,082	18,188	20,098	21,488	30,993	21,718	0.60	0.53	12%
PERQUIMANS	11,368	7,520	6,526	7,082	7,577	7,969	0.73	0.70	4%
PERSON	35,623	24,249	27,520	29,153	33,173	32,938	0.80	0.92	-16%
PITT	133,798	132,896	109,242	117,616	209,768	137,342	1.21	1.03	15%
POLK	18,324	9,327	8,678	10,791	12,359	14,079	0.63	0.77	-22%
RANDOLPH	130,454	78,663	90,824	99,893	103,031	105,189	0.73	0.81	-10%
RICHMOND	46,564	60,752	37,607	36,573	37,753	38,877	1.35	0.83	38%
ROBESON	123,339	104,700	61,943	105,632	96,641	128,176	0.99	1.04	-5%

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# APPENDIX B: COUNTY POPULATION, WASTE DISPOSAL, PER CAPITA RATE AND PERCENT REDUCTION, FY 2000-2001

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED				BASE YEAR PER CAPITA	PER CAPITA RATE	% WASTE REDUCTION
			1997-1998	1998-1999	1999-2000	2000-2001			
	JULY	1991-199	1997-1998	1998-1999	1999-2000	2000-2001	1991-1992	2000-2001	2000-2001**
ROCKINGHAM	91,928	71,481	92,429	101,537	97,577	97,313	0.83	1.06	-28%
ROWAN	130,340	90,081	121,963	132,575	142,071	142,801	0.80	1.10	-37%
RUTHERFORD	62,899	89,175	56,150	56,717	59,312	59,837	1.56	0.95	39%
SAMPSON	60,161	33,545	48,556	48,323	59,098	45,333	0.70	0.75	-8%
SCOTLAND	35,998	39,867	46,064	44,159	42,477	45,983	1.17	1.28	-9%
STANLY	58,100	69,288	64,054	72,753	71,556	69,654	1.32	1.20	9%
STOKES	44,711	17,976	11,098	9,848	12,554	12,716	0.47	0.28	39%
SURRY	71,219	73,595	52,796	56,335	68,131	73,848	1.18	1.04	12%
SWAIN	12,968	5,651	6,006	5,614	7,514	7,334	0.50	0.57	-13%
TRANSYLVANIA	29,334	30,072	20,659	22,237	26,975	28,103	1.16	0.96	17%
TYRRELL	4,149	2,985	1,223	1,946	2,359	2,186	0.79	0.53	33%
UNION	123,677	77,842	96,064	140,246	184,549	171,781	0.90	1.39	-54%
VANCE	42,954	43,267	55,255	55,022	56,097	55,625	1.11	1.30	-17%
WAKE	627,846	569,622	874,300	966,631	958,832	941,850	1.29	1.50	-16%
WARREN	19,972	10,978	8,665	9,358	8,991	9,518	0.63	0.48	24%
WASHINGTON	13,723	11,699	8,655	9,861	20,362	9,859	0.84	0.72	14%
WATAUGA	42,695	36,755	35,645	43,132	45,453	47,220	0.99	1.11	-12%
WAYNE	113,329	106,149	93,616	126,459	145,394	112,683	1.00	0.99	1%
WILKES	65,632	58,818	58,303	63,261	71,148	59,147	0.97	0.90	7%
WILSON	73,814	120,870	124,913	110,119	141,988	129,960	1.82	1.76	3%
YADKIN	36,348	20,779	20,574	19,336	18,995	19,795	0.67	0.54	19%
YANCEY	17,774	15,576	11,302	12,082	14,243	12,091	1.01	0.68	33%
<b>NC STATE</b>	<b>8,049,313</b>	<b>7,257,428</b>	<b>8,607,578</b>	<b>9,214,323</b>	<b>10,267,137</b>	<b>9,752,510</b>	<b>1.08</b>	<b>1.21</b>	<b>-13%</b>

TOTAL ADJUSTED FOR HURRICANE  
DEBRIS (e.g. FRAN, FLOYD)

9,937,355

\*See Appendix B-Contd. for counties using alternate base year

\*\*Waste reduction formula: (base year per capita minus current year per capita) divided by base year per capita



**APPENDIX B Contd.: COUNTIES USING APPROVED ALTERNATE BASE YEARS, FY 2000-2001**

**ALTERNATE BASE YEAR COUNTIES**

COUNTY	POPULATION	MSW TONS MANAGED	MSW TONS DISPOSED			BASE YEAR PER CAPITA	PER CAPITA RATE	% WASTE REDUCTION	
		ALTERNATE BASE YEAR	1997-1998	1998-1999	1999-2000	2000-2001	JUN-1992	2000-2001	2000-2001
ALAMANCE	130,800	117,862	88,901	113,694	135,310	142,244	1.10	1.09	1%
BUNCOMBE	206,330	157,660	198,703	224,806	247,300	251,472	0.91	1.22	-34%
CATAWBA	141,685	179,351	153,828	166,451	155,849	156,951	1.51	1.11	27%
CHATHAM	49,329	34,315	30,256	34,360	34,670	28,377	0.89	0.58	35%
CLEVELAND	96,287	74,096	74,749	81,228	84,685	87,224	0.87	0.91	-4%
CRAVEN	91,436	98,536	51,080	51,681	94,903	92,746	1.21	1.01	16%
DUPLIN	49,063	48,900	37,243	38,949	50,075	37,909	1.22	0.77	37%
DURHAM	223,314	224,196	246,571	253,439	267,300	224,407	1.31	1.00	23%
FORSYTH	306,067	357,474	440,241	445,674	422,828	465,134	1.34	1.52	-13%
MECKLENBURG	695,454	695,214	1,051,342	1,214,764	1,282,196	1,233,824	1.39	1.77	-28%
NEW HANOVER	160,307	168,504	289,879	266,602	275,930	259,305	1.44	1.62	-12%
PASQUOTANK	34,897	32,081	32,655	33,740	35,017	32,065	1.02	0.92	10%
PITT	133,798	177,390	109,242	117,616	209,768	137,342	1.66	1.03	38%
WAKE	627,846	544,520	874,300	966,631	958,832	941,850	1.40	1.50	-7%
WAYNE	113,329	111,167	93,616	126,459	145,394	112,683	1.06	0.99	6%

## Appendix C

### Imports and Exports from FY 1995-1996 through FY 2000-2001

<b>FY</b>	<b>Total Tons Exported</b>	<b>Receiving Facility</b>	<b>Distribution of Tons Received</b>		<b>Total Tons Imported</b>	<b>Receiving Facility</b>	<b>Distribution of Tons Received</b>
<b>2000 - 2001</b>	<b>900,743</b>	Brunswick Landfill, VA Palmetto Landfill, SC Iris Glenn Landfill, TN Atlantic Waste Disposal, VA Amelia Landfill, VA Bristol Landfill, VA Lee Co., SC Pinebluff Landfill, GA R & B Landfill, GA	436,264 340,782 44,863 30,275 18,541 13,121 9,912 6,809 176		<b>21,614</b>	Chambers Development Landfill, Anson Co. Waste Management of Carolinas, Gaston Co. (transfer) Addington Upper Piedmont Regional Landfill, Person Co Mecklenburg Co. Landfill (CDLF) Gaston Co. Landfill Griffin Farms C&D Landfill, Union Co. GDS Recycling Services, Catawba Co. Uwharrie Environmental MRF, Montgomery Co.	10,328 4,659 2,417 2,407 664 639 441 59
<b>1999 - 2000</b>	<b>1,106,897</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co., SC Iris Glenn Landfill, TN Bristol Landfill, VA Pinebluff Landfill, GA	463,587 432,645 148,412 43,680 14,001 4,572		<b>41,840</b>	Addington Upper Piedmont Regional Landfill, Person Co. Piedmont Sanitary Landfill, Forsyth Co. Gaston Co. Landfill Griffin Farms C&D Landfill, Union Co. GDS Recycling Services, Catawba Co. Uwharrie Environmental MRF, Montgomery Co Mecklenburg Co. Landfill Uwharrie Environmental Landfill, Montgomery Co.	32,976 (VA) 7,158 (VA) 640 (SC) 565 (SC) 377 (SC) 101 (SC) 15 (SC) 8(SC)
<b>1998 - 1999</b>	<b>1,166,875</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co, SC Iris Glenn Landfill, TN Bristol Landfill, VA Pinebluff Landfill, GA	446,858 382,479 277,246 41,612 14,766 3,914		<b>74,185</b>	Addington Upper Piedmont Regional Landfill, Person Co. Piedmont Sanitary LF, Forsyth Co. Griffin Farms C&D, Union Co. Gaston Co. Landfill Uwharrie Environmental MRF, Montgomery Co. New Hanover Waste to Energy	53,798 (VA) 19,251 (VA) 594 (SC) 418 (SC) 67 (SC) 57 (MD)
<b>1997 - 1998</b>	<b>629,415</b>	Palmetto Landfill, SC Brunswick Landfill, VA Lee Co. Landfill, SC	422,248 190,890 16,277		<b>87,393</b>	Piedmont Sanitary Landfill, Forsyth Co. Addington Upper Piedmont Regional Landfill, Person Co. Union Co. Landfill	80,570 (VA) 6,194 (VA) 629 (SC)
<b>1996 - 1997</b>	<b>280,400</b>	Palmetto Landfill, SC	280,400		<b>103,510</b>	Piedmont Sanitary Landfill, Forsyth Co. Union County Landfill	103,120 (VA) 390 (SC)
<b>1995 - 1996</b>	<b>111,097</b>	Palmetto Landfill, SC	111,097		<b>88,982</b>	Piedmont Sanitary Landfill, Forsyth Co.	88,982 (VA)